Semiannual Ground-Water Monitoring Report
December 1991
The Sherwin-Williams Plant
Emeryville, California

March 19, 1992
1563.06

Prepared for:

The Sherwin-Williams Company
1450 Sherwin Avenue
Emeryville, California

LEVINE·FRICKE

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

March 19, 1992 LF 1563.06

Mr. Lester Feldman
Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, California 94612

Subject: Semiannual Ground-Water Monitoring Report
December 1991
The Sherwin-Williams Plant
Emeryville, California

Dear Mr. Feldman:

The enclosed report presents the results of the 1991 semiannual ground-water monitoring for the Sherwin-Williams plant in Emeryville, California. Sampling activities were conducted in December 1991.

Semiannual monitoring included measuring ground-water elevations and analyzing ground-water samples from selected wells for volatile organic compounds using EPA Method 8240, total petroleum hydrocarbon compounds as diesel using EPA Method 3510, and Regional Water Quality Control Board Basin Plan metals (10) using EPA Method 200/6000/7000 Series.

Please call me or Mark D. Knox, P.E., if you have any questions.

Sincerely,

John DeReamer

John DeReamer
Senior Project Hydrogeologist

Enclosure

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CERTIFICATION

All hydrogeologic and geologic information, conclusions, and recommendations have been prepared under the supervision of and reviewed by a Levine·Fricke California Registered Geologist.

Kathleen A. Isaacson
Senior Project Hydrogeologist
California Registered Geologist (5106)

3/19/92
Date

March 19, 1992 LF-1563.06

**SEMIANNUAL GROUND-WATER MONITORING REPORT
DECEMBER 1991
THE SHERWIN-WILLIAMS PLANT, EMERYVILLE, CALIFORNIA**

1.0 INTRODUCTION AND SCOPE

This semiannual ground-water monitoring report has been prepared for submittal to the Regional Water Quality Control Board (RWQCB) as part of a continuing environmental investigation undertaken by The Sherwin-Williams Company for its manufacturing facility, 1450 Sherwin Avenue, Emeryville, California ("the Site"; Figures 1 and 2). This work was conducted in accordance with Levine·Fricke's Work Plan dated May 2, 1991, approved by Sherwin-Williams, which included a description of annual (conducted during June and August 1991) and semiannual (conducted during November and December 1991) ground-water monitoring.

Semiannual monitoring activities included laboratory analysis of ground-water samples collected from selected on-site and off-site perimeter monitoring wells. The annual program, which is conducted in the middle of the calendar year, includes monitoring all on-site and off-site monitoring wells.

The following activities were conducted for the December 1991 semiannual monitoring event:

- Ground-water levels were measured in on-site and off-site monitoring wells (LF-1 through LF-5, LF-7 through LF-16, and LF-B1 through LF-B4) and in Temescal Creek.
- Ground-water samples were collected from 10 A-zone monitoring wells located in on-site perimeter and off-site perimeter areas (LF-7 through LF-16) and 4 B-zone monitoring wells (LF-B1 through LF-B4).
- Ground-water samples were analyzed for volatile organic compounds (VOCs) using EPA Method 8240, for total petroleum hydrocarbons as diesel (TPHd) using EPA Extraction Method 3510, and for RWQCB Basin Plan metals (10) using EPA Method 200/6000/7000 Series.

- A floating-product sample was collected from A-zone monitoring well LF-2. This sample was analyzed for fingerprint characterization by capillary gas chromatography using flame ionization detection and electron capture detection.

Data were collected and are reported in accordance with the guidelines set forth in the Levine•Fricke Quality Assurance Project Plan (QAPP) prepared for this project (Levine•Fricke, 1990, unpublished).

2.0 GROUND-WATER ELEVATIONS AND FLOW DIRECTIONS

On December 16, 1991, ground-water elevations were measured in A-zone monitoring wells LF-1 through LF-5 and LF-7 through LF-16, and in B-zone monitoring wells LF-B1 through LF-B4. The surface-water elevation of Temescal Creek was also measured on December 16, 1991. No ground-water elevation data were collected for A-zone well LF-6, which was abandoned by sealing with cement/bentonite grout on August 2, 1990 (see Levine•Fricke, 1991a).

Table 1 presents ground-water elevation data, and Figures 3 and 4, respectively, illustrate directions of ground-water flow in the A and B zones. As shown in Figure 3, ground-water flow in the A zone is toward the west and northwest. As shown in Figure 4, ground-water flow in the B zone appears to be toward the northwest.

3.0 GROUND-WATER QUALITY SAMPLING

During the period from December 16 through December 18, 1991, Levine•Fricke personnel collected ground-water samples for chemical analysis from A-zone monitoring wells LF-7 through LF-16, and from B-zone monitoring wells LF-B1 through LF-B4. An additional sample was collected from the 0.23 inch of product (measured on December 16, 1991) measured floating on the ground-water surface in well LF-2.

Samples were collected for analysis of VOCs using EPA Method 8240, TPHd using EPA Extraction Method 3510, and inorganic compounds as RWQCB Basin Plan metals (silver, arsenic, barium, cadmium, total chromium, copper, mercury, nickel, lead, selenium, and zinc) using EPA Method 200/6000/7000 Series. The floating-product sample from well LF-2 was collected for analysis for fingerprint characterization by capillary gas chromotography. Wells were generally sampled in the order of

increasing concentration of arsenic based on previous results, as indicated in Table 2. Sampling order was controlled to minimize the potential for contamination of samples during analysis, as a result of carryover from one sample to the next, particularly for arsenic.

A minimum of 3 well volumes were purged from each well before sampling. The wells were purged either by pumping with a centrifugal pump or by hand bailing with a disposable polyethylene bailer. Wells that recovered slowly were purged dry and were allowed to recover to 80 percent of the initial well volume before they were sampled. The hoses attached to the centrifugal pump were steamed cleaned before each use. The evacuated water was pumped into a 55-gallon drum and then transferred to a holding tank located in an on-site area, pending approved disposal. Field measurements of temperature, pH, and specific conductance of the evacuated water were recorded during purging; monitoring wells were sampled after these parameters had stabilized.

After each well had been purged, ground-water samples were collected for laboratory analysis using a new disposable polyethylene bailer for each well. Samples were collected using the containers indicated in Table 3. Water samples for metals analysis were collected in a 1-liter plastic bottle without preservative and were filtered in the laboratory using 0.45-micron filters. The filtered samples were then preserved by the laboratory. All samples for chemical analysis were analyzed according to EPA method protocols by Anametrix Laboratory of San Jose, California, a State-certified laboratory.

Appendix A includes the field records of the measured sampling parameters. Appendix B includes laboratory certificates. Appendix C includes review of the quality of the reported data. Appendix D includes the results of the laboratory analyses for fingerprint characterization of the floating product in well LF-2.

4.0 GROUND-WATER QUALITY ANALYSIS RESULTS

4.1 A-Zone Water-Quality Results

Analytical results for samples collected from A-zone wells are presented in Tables 4 (VOCs), 5 (TPHd), and 6 (inorganic compounds). Graphic illustrations of chemical concentrations detected in A-zone wells are presented in Figures 5 (VOCs), 6 (TPHd), and 7 (inorganic compounds).

4.1.1 Volatile Organic Compounds

The VOC results for upgradient wells LF-12 and LF-13 were generally below the laboratory detection limits (see Table 4, Figure 5, and Appendix B), with the exception of the detection of 0.018 parts per million (ppm) of 1,1,1-trichloroethane (1,1,1-TCA) in well LF-13.

VOC results for off-site downgradient wells LF-14, LF-15, and LF-16 were below laboratory detection limits (Table 4, Figure 5, and Appendix B). VOC results for well LF-7 and on-site downgradient perimeter wells LF-8 through LF-11 generally were below the reported laboratory detection limits, with the exceptions of the detection of 0.009 ppm ethylbenzene in well LF-9, and the detection of 0.006 ppm benzene, 0.006 ppm ethylbenzene, 0.009 ppm total xylenes, and 0.005 ppm chlorobenzene in well LF-7.

4.1.2 Total Petroleum Hydrocarbons as Diesel

Hydrocarbons as TPHd were detected in samples from on-site downgradient perimeter wells LF-7 through LF-11 (see Table 5, Figure 6, and Appendix B). Ground-water samples from wells LF-7, LF-8, LF-9, LF-10, and LF-11 contained TPHd concentrations of 0.540 ppm, 0.220 ppm, 0.600 ppm, 0.990/0.570 ppm (sample/ duplicate), and 0.410 ppm, respectively. Off-site downgradient wells LF-14 and LF-16 contained relatively low TPHd concentrations of 0.086 ppm and 0.094 ppm, respectively.

TPHd results for upgradient wells LF-12 and LF-13 and for off-site downgradient A-zone well LF-15 were reported as less than 0.050 ppm.

4.1.3 Inorganic Compounds

Ground-water samples collected during this sampling event were analyzed for inorganic compounds using EPA Method 200/6000/ 7000 Series for RWQCB Basin Plan metals including silver, arsenic, cadmium, total chromium, copper, mercury, nickel, lead, selenium, and zinc. The results are summarized in Table 6 and illustrated in Figure 7.

Metals detected in ground water sampled from upgradient monitoring wells LF-12 and LF-13 generally were below the laboratory detection limits, as summarized in Table 6 and reported in Appendix B, with the exception of the detection of 0.024 ppm of zinc in well LF-12 (Figure 7).

The metals results for ground-water samples from off-site downgradient monitoring wells LF-14, LF-15, and LF-16 included detectable concentrations of arsenic for well LF-14 (0.104 ppm) and LF-16 (0.010 ppm), and detectable concentrations of zinc for wells LF-15 (0.026 ppm) and LF-16 (0.025 ppm; Table 6). Metals results for ground water sampled from on-site downgradient perimeter monitoring wells LF-7, LF-8, LF-9, LF-10, and LF-11 included detectable concentrations of arsenic for wells LF-8 (0.016 ppm), LF-9 (0.046 ppm), LF-10 (0.704 ppm and 0.549 ppm for a duplicate), and LF-11 (0.011 ppm); and detectable concentrations of zinc for monitoring wells LF-9 and LF-10 (Table 6).

4.2 B-Zone Water-Quality Results

Analytical results for samples collected from B-zone wells are presented in Tables 4 (VOCs), 5 (TPHd), and 6 (inorganic compounds). Graphic illustrations of chemical distribution in the B zone are presented in Figures 6 (TPHd), 8 (VOCs), and 9 (inorganic compounds).

4.2.1 Volatile Organic Compounds

VOC results for B-zone monitoring wells (LF-B1, LF-B2, LF-B3, and LF-B4) indicated 1,2-dichloroethane (1,2-DCA) concentrations of 0.160 ppm in samples from well LF-B1 and 0.087 ppm in samples from well LF-B3. VOC results also indicated a detectable concentration of 0.026 ppm of acetone in samples from well LF-B3.

4.2.2 Total Petroleum Hydrocarbons as Diesel

The results of TPHd analysis of ground-water samples collected from B-zone monitoring wells (LF-B1 through LF-B4) were all below the detection limit of 0.050 ppm (Table 5, Figure 6, and Appendix B).

4.2.3 Inorganic Compounds

Analytical results for inorganic compounds as RWQCB Basin Plan metals indicated that arsenic and lead were not present in detectable concentrations in the ground-water samples from wells LF-B1 through LF-B4 (detection limits of 0.010 ppm and 0.003 ppm, respectively; Table 6, Figure 9, and Appendix B). Detectable concentrations of zinc were reported for the ground-water sample from well LF-B4 (0.029 ppm), and detectable concentrations of nickel were reported for the

sample from well LF-B3 (0.016 ppm). The results for all other analyzed metals in B-zone wells were below detection limits, which ranged from 0.001 ppm to 0.025 ppm, as indicated in the laboratory reports in Appendix B.

5.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) PROCEDURES AND RESULTS

Quality assurance (QA) and quality control (QC) measures were implemented to maintain data quality and to minimize the potential for field and/or laboratory cross contamination of samples, particularly for arsenic. QA/QC procedures included collecting trip blank and bailer rinsate blank samples, controlling sampling order, using disposable bailers, and cleaning pump hoses with steam before and after use.

The monitoring wells were sampled in several groups according to location, including off-site upgradient locations, off-site downgradient locations, and on-site downgradient perimeter locations. The wells in each group were sampled in the order of increasing concentration of arsenic, based on previous results (Levine•Fricke, 1991b) and as prescribed in the QAPP (Levine•Fricke, 1990). Table 2 presents the December 1991 sampling order, including the collection and submittal of trip blanks and bailer rinsate blanks.

Three types of QA/QC samples were collected and analyzed for each analytical method, including laboratory-supplied trip blanks, bailer rinsate blanks, and duplicates. One or more trip blanks, bailer rinsate blanks, and duplicate samples were collected and analyzed for organic compounds using EPA Methods 8240 and 3510, and for inorganic compounds using EPA Method 200/6000/7000 Series. Trip blank samples for arsenic analysis were submitted on a daily basis to provide an indication of potential residual contamination of laboratory equipment.

The results for the QA/QC samples are reported in Appendix C and in Table C-1. These results indicate that the implemented QA/QC controls were effective in controlling field and/or laboratory cross contamination of samples, particularly with regard to arsenic results.

6.0 REFERENCES

Levine·Fricke, Inc. 1990. Quality assurance project plan for Sherwin-Williams Plant, Emeryville, California. November 29. (unpublished report)

Levine·Fricke, Inc. 1991a. Semiannual report of ground-water monitoring for the period of October 1, 1990 through January 30, 1991, Sherwin-Williams Plant, Emeryville, California. April 22.

Levine·Fricke, Inc. 1991b. Report of annual ground-water monitoring for the period of June through August 1991, Sherwin-Williams Plant, Emeryville, California. November 7.

TABLE 1

GROUND-WATER ELEVATION DATA
DECEMBER 1991

Well Number	Date	Well Elevation (feet Mean Sea Level)	Well Elevation (feet Mean Lower Low Water)	Measured Depth to Ground Water (feet)	Ground-Water Elevation* (feet) (MLLW Datum)
LF-1	Dec-16-91	16.92	19.78	9.07	10.71
LF-2	Dec-16-91	12.24	15.10	5.49	9.81 **
LF-3	Dec-16-91	11.98	14.84	5.19	9.65
LF-4	Dec-16-91	13.05	15.91	7.33	8.58
LF-5	Dec-16-91	10.25	13.11	4.68	8.43
LF-6	Sealed August 2, 1990				
LF-7	Dec-16-91	11.08	13.94	4.87	9.07
LF-8	Dec-16-91	12.75	15.61	7.18	8.43
LF-9	Dec-16-91	10.44	13.30	5.46	7.84
LF-10	Dec-16-91	10.32	13.18	4.28	8.90
LF-11	Dec-16-91	10.08	12.94	3.80	9.14
LF-12	Dec-16-91	14.97	17.83	7.09	10.74
LF-13	Dec-16-91	14.76	17.62	6.76	10.86
LF-14	Dec-16-91	10.03	12.89	5.99	6.90
LF-15	Dec-16-91	9.80	12.66	5.02	7.64
LF-16	Dec-16-91	10.10	12.96	4.71	8.25
LF-B1	Dec-16-91	17.11	19.97	10.32	9.65
LF-B2	Dec-16-91	9.72	12.58	3.27	NM
LF-B3	Dec-16-91	10.35	13.21	3.89	9.32
LF-B4	Dec-16-91	14.54	17.40	6.85	10.55
Surface Water of Temescal Creek	Dec-16-91	10.98	13.84	10.25	3.59

Notes:

* = The correction factor to convert to a Mean Lower Low Water Datum (MLLW) is +2.86 for the Berkeley Marina on San Francisco Bay. The MLLW provides a preferred plane of reference for water levels that may be close to the level of low tide.

Well elevations for LF-B1, LF-B2, LF-B3, LF-B4, and LF-5 were resurveyed by Nolte Associates of San Jose, California on August 6, 1991.

TABLE 1

GROUND-WATER ELEVATION DATA
DECEMBER 1991

Well Number	Date	Well Elevation (feet Mean Sea Level)	Well Elevation (feet Mean Lower Low Water)	Measured Depth to Ground Water (feet)	Ground-Water Elevation* (feet) (MLLW Datum)

** = The ground-water elevation in well LF-2 has been corrected to account for the presence of the lower density fluids on top of the water table using the following calculation:

$$\text{Ground-water Elevation (ft msl)} = \text{Well Elevation (ft msl)} + \left|\text{Product Thickness (ft)} \times \text{Specific gravity of product}\right| - \left|\text{Depth to Water (ft)}\right|$$

The specific gravity of the product was estimated to be approximately 0.87.

TABLE 2

SEQUENCE OF WELLS SAMPLED, DECEMBER 1991
(Includes Schedule for Collection and Submittal of Trip Blanks and Bailer Rinsate Blanks)

Sampling Date, Sampling Order, and Well Identification	Arsenic Results from Previous Sampling (reported in parts per million)
Samples Collected on December 16, 1991	
LF-12-Trip Blank	<0.010
LF-12	<0.010
LF-13	<0.010
LF-B1	<0.010
LF-B2	<0.010
LF-B3	<0.010
Samples Collected on December 17, 1991	
LF-B4-Trip Blank	<0.010
LF-B4	<0.010
LF-15	<0.010
LF-14	0.095
LF-16	0.010
LF-7	0.012
LF-11	0.021
LF-8	0.021
Samples Collected on December 18, 1991	
Field Blank	<0.010
LF-9	0.031
LF-9-Bailer Rinsate Blank	<0.010
LF-10	1.090
LF-10-DUP	1.090

TABLE 3

SAMPLE CONTAINERS, PRESERVATION METHODS, AND HOLDING TIMES

EPA Method	Parameter	Volume	Container	Preservation (degrees Celsius)	Holding Time
601/8010	halogenated volatile organics	40 ml	glass	4	14 days
Modified 8015	total petroleum hydrocarbons analyzed as gasoline	40 ml	glass	4 (1)	14 days
3510	total petroleum hydrocarbons analyzed as diesel	2 l	glass	4	14 days
602/8020	aromatic volatile organic compounds	40 ml	glass	4 (1)	14 days
624/8240	volatile organic compounds	40 ml	glass	4 (1)	14 days
625/8270	base/neutral/acid extractables	2 l	glass	4	extract within 7 days and analyze within 40 days of extraction.
200/7000 Series	priority pollutant metals	1 l	plastic	4 (2)	6 months

Notes:
(1) Water samples preserved with hydrochloric acid.
(2) Following filtration, water samples preserved with nitric acid so that pH <2.

Soils are to be collected in brass tubes (undisturbed soils) or glass jars (disturbed soils).
Preservation of soils will only include keeping samples at 4 degrees Celsius.
ml = milliliter
l = liter

TABLE 4

HISTORICAL WATER-QUALITY DATA SUMMARY

VOLATILE ORGANIC COMPOUNDS, EPA METHOD 8240

(All concentrations expressed in parts per million [ppm])

Well Number	Date Sampled	Lab	Lab I.D. Number	Acetone	Benzene	Ethyl-benzene	Methyl Ethyl Ketone	Total Xylenes	2-Hexa-none	Toluene	1,1,1-TCA	1,2-DCA	PCE	TCE	Chloro-benzene	Total Quantified Conc.	Notes
LF-1	01-Jun-89	B&C	89060194	30.000	<0.200	0.900	20.000	3.600	15.000	6.000	<0.200	<0.200	<0.200	<0.200	<0.200	75.500	
LF-1	07-Dec-89	B&C	12-212-1	<0.010	<0.001	<0.001	<0.020	0.040	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	0.042	
LF-1	20-Jul-90	B&C	07-506-7	0.450	0.002	<0.001	0.200	0.160	<0.001	0.018	<0.001	<0.001	0.005	0.004	<0.001	0.840	#2
LF-1	21-Jun-91	ANA	9106274-08	<0.020	<0.005	0.019	<0.020	0.010	<0.010	<0.005	<0.005	<0.005	0.002	<0.005	<0.005	0.032	
LF-2	02-Jun-89	B&C	89060501	<0.050	0.015	0.015	<0.100	0.300	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.330	
LF-2	07-Dec-89	B&C	12-212-3	0.350	<0.020	<0.020	<0.400	0.840	<0.020	0.029	<0.020	<0.020	<0.020	<0.020	<0.020	1.219	
LF-2	20-Jul-90	B&C	07-506-5	<0.500	<0.050	0.066	8.800	0.910	12.000	0.051	<0.050	<0.050	<0.050	<0.050	0.050	21.827	
LF-3	02-Jun-89	B&C	89060502	<1.000	<0.100	2.500	<2.000	12.000	<0.100	17.000	<0.100	<0.100	<0.100	<0.100	<0.100	31.500	
LF-3	07-Dec-89	B&C	12-212-4	<5.000	<0.500	6.300	<10.000	32.000	<0.500	77.000	<0.500	<0.500	<0.500	<0.500	<0.500	115.300	
LF-3	20-Jul-90	B&C	07-506-6	10.000	0.110	5.000	7.700	22.000	1.900	52.000	<0.050	<0.050	<0.050	<0.050	<0.050	98.710	
LF-3	21-Jun-91	ANA	9106274-07	9.900	<1.000	7.500	8.200	44.000	<2.000	62.000	<1.000	<1.000	<1.000	<1.000	<1.000	139.800	
LF-4	02-Jun-89	B&C	89060503	1.300	<0.200	1.300	4.700	3.800	0.260	<0.200	<0.020	<0.020	<0.020	<0.020	<0.020	11.360	
Dup	02-Jun-89	B&C	89060504	1.300	<0.200	1.700	4.700	4.100	0.280	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	12.080	
LF-4	06-Dec-89	B&C	12-174-1	<0.020	<0.020	0.200	<0.040	0.650	<0.002	<0.004	<0.002	<0.002	<0.002	<0.002	<0.002	0.850	
DUP	06-Dec-89	B&C	12-174-6	<0.050	<0.005	0.250	<0.100	0.750	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	1.000	
LF-4	20-Jul-90	B&C	07-506-3	<1.000	<1.000	<0.100	<2.000	0.380	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	0.380	
LF-4	21-Jun-91	ANA	9106274-02	0.079	0.039	0.058	<0.040	0.350	<0.020	0.007	<0.010	<0.010	<0.010	<0.010	0.005	0.556	
DUP	21-Jun-91	ANA	9106274-03	<0.040	0.040	0.140	<0.040	0.380	<0.020	0.008	<0.010	<0.010	<0.010	<0.010	0.006	0.594	#4
LF-5	01-Jun-89	B&C	89060192	220.000	<2.000	2.000	390.000	8.000	<2.000	300.000	<1.000	<1.000	<1.000	<2.000	<1.000	920.000	
LF-5	06-Dec-89	B&C	12-174-4	51.000	<1.000	<1.000	320.000	<1.000	<1.000	310.000	<1.000	<1.000	<1.000	<1.000	<1.000	681.000	
LF-5	20-Jul-90	B&C	07-506-2	<10.000	<1.000	1.100	170.000	2.600	6.700	170.000	<1.000	<1.000	<1.000	<1.000	<1.000	350.400	
LF-5	21-Jun-91	ANA	9108069-05	<20.000	<5.000	<5.000	<20.000	5.400	<10.000	>200.00	<5.000	<5.000	<5.000	<5.000	<5.000	5.400	
LF-6	01-Jun-89	B&C	89060193	280.000	<1.000	6.000	470.000	210.000	<1.000	22.000	<0.200	<0.200	<0.200	<1.000	<0.200	988.000	
LF-6	05-Dec-89	B&C	12-128-3	64.000	<1.000	5.000	320.000	17.000	<1.000	59.000	<1.000	<1.000	<1.000	<1.000	<1.000	465.000	
LF-6	20-Jul-90	B&C	07-506-4	200.000	<1.000	4.000	720.000	13.000	24.000	45.000	<1.000	<1.000	45.000	<1.000	<1.000	1051.000	

TABLE 4

HISTORICAL WATER-QUALITY DATA SUMMARY

VOLATILE ORGANIC COMPOUNDS, EPA METHOD 8240

(All concentrations expressed in parts per million [ppm])

Well Number	Date Sampled	Lab	Lab I.D. Number	Acetone	Benzene	Ethyl-benzene	Methyl Ethyl Ketone	Total Xylenes	2-Hexa-none	Toluene	1,1,1-TCA	1,2-DCA	PCE	TCE	Chloro-benzene	Total Quantified Conc.	Notes
LF-7	01-Jun-89	B&C	89060191	<0.005	0.050	<0.005	<0.005	0.580	<0.005	0.270	<0.001	<0.001	<0.001	<0.005	<0.001	0.900	
LF-7	06-Dec-89	B&C	12-174-3	<0.010	0.031	0.052	<0.020	0.150	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	0.007	0.243	
LF-7	19-Jul-90	B&C	07-485-4	<0.010	<0.001	0.007	<0.020	0.044	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.052	
LF-7	20-Jun-91	ANA	9106251-06	<0.020	0.061	0.045	<0.020	0.120	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	0.007	0.233	
LF-7	17-Dec-91	ANA	9112188-06	<0.020	0.006	0.006	<0.020	0.009	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	0.026	
LF-8	05-Dec-89	B&C	12-128-4	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	
LF-8	19-Jul-90	B&C	07-485-5	<0.010	<0.001	0.007	<0.020	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.010	
LF-8	21-Dec-90	B&C	12-529-3	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-8	20-Jun-91	ANA	9106251-07	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	
LF-8	17-Dec-91	ANA	9112188-07	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	
LF-9	05-Dec-89	B&C	12-128-1	<0.010	<0.001	0.022	<0.020	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	0.025	0.050	
LF-9	19-Jul-90	B&C	07-485-6	<0.010	<0.001	0.011	<0.020	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.013	0.026	
LF-9	21-Dec-90	B&C	12-529-5	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.020	
LF-9	21-Jun-91	ANA	9106274-05	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	
LF-9	16-Dec-91	ANA	9112189-02	<0.020	<0.005	0.009	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.009	
LF-10	07-Dec-89	B&C	12-212-5	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-10	19-Jul-90	B&C	07-485-7	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
DUP	19-Jul-90	B&C	07-485-8	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-10	19-Dec-90	B&C	12-529-6	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
DUP	19-Dec-90	B&C	12-529-7	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-10	21-Jun-91	ANA	9106274-06	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	
LF-10	18-Dec-91	ANA	9112189-04	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	
DUP	18-Dec-91	ANA	9112188-05	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	

TABLE 4

HISTORICAL WATER-QUALITY DATA SUMMARY

VOLATILE ORGANIC COMPOUNDS, EPA METHOD 8240

(All concentrations expressed in parts per million [ppm])

Well Number	Date Sampled	Lab	Lab I.D. Number	Acetone	Benzene	Ethyl-benzene	Methyl Ethyl Ketone	Total Xylenes	2-Hexa-none	Toluene	1,1,1-TCA	1,2-DCA	PCE	TCE	Chloro-benzene	Total Quantified Conc.	Notes
LF-11	05-Dec-89	B&C	12-128-2	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	0.002	0.004	
DUP	05-Dec-89	B&C	12-128-5	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.023	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-11	19-Jul-90	B&C	07-485-3	0.015	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.016	0.032	
LF-11	21-Dec-90	B&C	12-529-4	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-11	21-Jun-91	ANA	9106069-03	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
DUP	21-Jun-91	ANA	9106251-04	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
LF-11	17-Dec-91	ANA	9112188-08	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	
LF-12	06-Dec-89	B&C	12-174-2	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	0.005	<0.001	<0.001	<0.001	<0.001	0.005	0.010	
LF-12	18-Jul-90	B&C	07-444-5	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.002	0.001	0.004	
LF-12	19-Dec-90	B&C	12-474-5	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.003	0.002	0.007	
LF-12	19-Jun-91	ANA	9106245-04	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	0.002	0.002	0.004	
LF-12	16-Dec-91	ANA	9112190-02	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	
LF-13	06-Dec-89	B&C	12-174-7	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	0.002	0.029	<0.001	<0.001	<0.001	0.031	0.062	
LF-13	18-Jul-90	B&C	07-444-4	<0.010	<0.001	<0.001	<0.020	0.001	<0.001	0.002	0.056	<0.001	0.001	<0.001	0.060	0.120	
LF-13	19-Dec-90	B&C	12-474-4	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	0.042	0.002	0.002	<0.001	0.046	0.092	#3
LF-13	19-Jun-91	ANA	9106245-03	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	0.032	<0.005	<0.005	<0.005	0.032	0.064	
LF-13	16-Dec-91	ANA	9112190-03	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	0.018	<0.005	<0.005	<0.005	<0.005	0.018	
LF-14	04-Sep-90	B&C	07-444-4	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-14	21-Dec-90	B&C	12-505-7	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-14	20-Jun-91	ANA	9106251-08	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	
LF-14	17-Dec-91	ANA	9112188-04	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	
LF-15	04-Sep-90	B&C	07-444-5	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-15	21-Dec-90	B&C	12-505-6	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-15	20-Jun-91	ANA	9106251-09	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	
LF-15	17-Dec-91	ANA	9112188-03	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	

TABLE 4

HISTORICAL WATER-QUALITY DATA SUMMARY

VOLATILE ORGANIC COMPOUNDS, EPA METHOD 8240

(All concentrations expressed in parts per million [ppm])

Well Number	Date Sampled	Lab	Lab I.D. Number	Acetone	Benzene	Ethyl-benzene	Methyl Ethyl Ketone	Total Xylenes	2-Hexa-none	Toluene	1,1,1-TCA	1,2-DCA	PCE	TCE	Chloro-benzene	Total Quantified Conc.	Notes
LF-16	04-Sep-90	B&C	07-444-6	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-16	20-Dec-90	B&C	12-505-5	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-16	20-Jun-91	ANA	9106251-10	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	
LF-16	17-Dec-91	ANA	9112188-05	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	
LF-B1	07-Dec-89	B&C	12-212-6	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	0.051	<0.001	<0.001	0.051	0.102	
LF-B1	18-Jul-90	B&C	07-444-9	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.002	<0.001	0.170	0.001	<0.001	0.171	0.342	
LF-B1	20-Dec-90	B&C	12-505-4	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	0.130	<0.001	<0.001	0.130	0.260	
LF-B1	20-Jun-91	ANA	9106251-05	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	0.180	<0.005	<0.005	0.180	0.360	
LF-B1	16-Dec-91	ANA	9112190-04	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	0.160	<0.005	<0.005	<0.005	0.160	
LF-B2	06-Dec-89	B&C	12-174-5	<0.010	<0.001	<0.001	<0.020	0.013	<0.001	<0.001	<0.001	0.007	<0.001	<0.001	0.020	0.040	
LF-B2	18-Jul-90	B&C	07-444-6	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	0.002	<0.001	0.007	<0.001	<0.001	0.009	0.018	
DUP	18-Jul-90	B&C	07-444-7	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	0.002	<0.001	0.007	<0.001	<0.001	0.009	0.018	
LF-B2	19-Dec-90	B&C	12-474-6	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	0.004	0.002	<0.001	0.006	0.012	
LF-B2	20-Jun-91	ANA	9106251-04	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	0.006	<0.005	<0.005	0.006	0.012	
LF-B2	16-Dec-91	ANA	9112190-05	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	
LF-B3	07-Dec-89	B&C	12-212-8	<0.010	<0.001	<0.001	<0.020	<0.001	0.001	<0.001	<0.001	0.100	<0.001	<0.001	0.101	0.202	#1
DUP	07-Dec-89	B&C	12-212-10	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	0.073	<0.001	<0.001	0.073	0.146	
LF-B3	18-Jul-90	B&C	07-444-8	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	0.002	<0.001	0.086	<0.001	<0.001	0.088	0.176	
LF-B3	20-Dec-90	B&C	12-505-3	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	0.084	<0.001	<0.001	0.084	0.168	
LF-B3	19-Jun-91	ANA	9106245-05	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	0.110	<0.005	<0.005	0.110	0.220	
LF-B3	16-Dec-91	ANA	9112190-06	0.026	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	0.087	<0.005	<0.005	<0.005	0.113	
LF-B4	18-Jul-90	B&C	07-444-3	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	0.002	<0.001	0.001	<0.001	<0.001	0.003	0.006	
LF-B4	19-Dec-90	B&C	12-474-3	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	0.002	0.004	
LF-B4	19-Jun-91	ANA	9106245-01	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.000	
LF-B4	17-Dec-91	ANA	9112188-02	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	

TABLE 4

HISTORICAL WATER-QUALITY DATA SUMMARY

VOLATILE ORGANIC COMPOUNDS, EPA METHOD 8240

(All concentrations expressed in parts per million [ppm])

Well Number	Date Sampled	Lab	Lab I.D. Number	Acetone	Benzene	Ethyl-benzene	Methyl Ethyl Ketone	Total Xylenes	2-Hexa-none	Toluene	1,1,1-TCA	1,2-DCA	PCE	TCE	Chloro-benzene	Total Quantified Conc.	Notes
FIELD BLANKS & TRIP BLANKS																	
LF-1-FB	01-Jun-86	B&C	89060195	0.012	<0.001	<0.001	<0.020	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.016	
LF-1-FB	07-Dec-89	B&C	12-212-2	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-B1-FB	07-Dec-89	B&C	12-212-7	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-13-FB	06-Dec-89	B&C	12-174-12	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
Trip Blank	07-Dec-89	B&C	12-212-9	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-B4-TB	18-Jul-90	B&C	07-444-1	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-B4-BB	18-Jul-90	B&C	07-444-2	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-11-TB	19-Jul-90	B&C	07-485-1	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-11-BB	19-Jul-90	B&C	07-485-1	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-B4-BR	19-Dec-90	B&C	12-474-2	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-8-TB	21-Dec-90	B&C	12-529-1	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-8-BR	21-Dec-90	B&C	12-529-2	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-B3-BR	20-Dec-90	B&C	12-505-2	<0.010	<0.001	<0.001	<0.020	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.020	
LF-B3-BR	19-Jun-91	ANA	9106245-6	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
LF-11-BR	20-Jun-91	ANA	9106251-2	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
LF-4-TB	24-Jun-91	ANA	9106274-1	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Trip Blank	06-Aug-91	ANA	9108069-1	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
LF-9-BR	18-Dec-91	ANA	9112189-03	<0.020	<0.005	<0.005	<0.020	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	

TABLE 4

HISTORICAL WATER-QUALITY DATA SUMMARY

VOLATILE ORGANIC COMPOUNDS, EPA METHOD 8240

(All concentrations expressed in parts per million [ppm])

Well Number	Date Sampled	Lab	Lab I.D. Number	Acetone	Benzene	Ethyl-benzene	Methyl Ethyl Ketone	Total Xylenes	2-Hexa-none	Toluene	1,1,1-TCA	1,2-DCA	PCE	TCE	Chloro-benzene	Total Quantified Conc.	Notes

Explanation of symbols and abbreviations used on Table 4:

\# - Signifies that there is a note of explanation for laboratory results.
B&C - Brown and Caldwell Laboratory, Emeryville, California.
ANA - Anametrix Laboratory of San Jose, California
DUP - Duplicate Sample

1,1,1-TCA = 1,1,1-Trichloroethane
1,2-DCA = 1,2-Dichloroethane
PCE = Tetrachloroethene
TCE = Trichloroethene

NOTES:
#1 LF-B3 06/02/89 - Vinyl Acetate reported at 0.001 ppm, styrene reported at 0.001 ppm, and methyl isobutyl ketone reported at 0.001 ppm.
#2 LF-1 07/20/90 - cis-Dichloroethene reported at 0.001 ppm.
#3 LF-13 12/19/90 - 1,1-Dichloroethane reported at 0.002 ppm.
#4 LF-4 DUP 06/21/91 - cis-1,2-Dichloroethene reported at 0.020 ppm.

TABLE 5
HISTORICAL WATER-QUALITY DATA SUMMARY
TOTAL PETROLEUM HYDROCARBONS AS DIESEL
(Results reported in parts per million [ppm])

Well Number	Date Sampled	Lab	Lab I.D. Number	Total Petroleum Hydrocarbons as Diesel
LF-1	20-Jul-90	B&C	07-506-7	
LF-1	21-Jun-91	ANA	9106274-08	<0.050
LF-2	20-Jul-90	B&C	07-506-5	
LF-3	20-Jul-90	B&C	07-506-6	
LF-3	21-Jun-91	ANA	9106274-07	2.000
LF-4	20-Jul-90	B&C	07-506-3	
LF-4	21-Jun-91	ANA	9106274-02	0.780
LF-4-D	21-Jun-91	ANA	9106274-03	0.510
LF-5	20-Jul-90	B&C	07-506-2	
LF-5	06-Aug-91	ANA	9108069-05	4.700
LF-6	20-Jul-90	B&C	07-506-4	
LF-7	19-Jul-90	B&C	07-485-4	
LF-7	20-Jun-91	ANA	9106251-06	<0.050
LF-7	17-Dec-91	ANA	9112188-06	0.540
LF-8	19-Jul-90	B&C	07-485-5	
LF-8	20-Jun-91	ANA	9106251-07	<0.050
LF-8	17-Dec-91	ANA	9112188-07	0.220
LF-9	19-Jul-90	B&C	07-485-6	
LF-9	21-Jun-91	ANA	9106274-05	0.200
LF-9	16-Dec-91	ANA	9112189-02	0.600
LF-10	19-Jul-90	B&C	07-485-7	
Duplicate	19-Jul-90	B&C	07-485-8	
LF-10	21-Jun-91	ANA	9106274-06	0.270
LF-10	18-Dec-91	ANA	9112189-04	0.990
DUP	18-Dec-91	ANA	9112188-05	0.570
LF-11	19-Jul-90	B&C	07-485-3	
LF-11	20-Jun-91	ANA	9106251-03	0.130
LF-11-D	20-Jun-91	ANA	9106251-04	0.120
LF-11	17-Dec-91	ANA	9112188-08	0.410
LF-12	18-Jul-90	B&C	07-444-5	
LF-12	19-Jun-91	ANA	9106245-04	<0.050
LF-12	16-Dec-91	ANA	9112190-02	<0.050

TABLE 5
HISTORICAL WATER-QUALITY DATA SUMMARY
TOTAL PETROLEUM HYDROCARBONS AS DIESEL
(Results reported in parts per million [ppm])

Well Number	Date Sampled	Lab	Lab I.D. Number	Total Petroleum Hydrocarbons as Diesel
LF-13	18-Jul-90	B&C	07-444-4	
LF-13	19-Jun-91	ANA	9106245-02	<0.050
LF-13	16-Dec-91	ANA	9112190-03	<0.050
LF-14	04-Sep-90	B&C	07-444-4	
LF-14	20-Jun-91	ANA	9106251-08	<0.050
LF-14	17-Dec-91	ANA	9112188-04	0.086
LF-15	04-Sep-90	B&C	07-444-5	
LF-15	20-Jun-91	ANA	9106251-09	<0.050
LF-15	17-Dec-91	ANA	9112188-03	<0.050
LF-16	04-Sep-90	B&C	07-444-6	
LF-16	20-Jun-91	ANA	9106251-10	<0.050
LF-16	17-Dec-91	ANA	9112188-05	0.094
LF-B1	18-Jul-90	B&C	07-444-9	
LF-B1	20-Jun-91	ANA	9106251-05	<0.050
LF-B1	16-Dec-91	ANA	9112190-04	<0.050
LF-B2	18-Jul-90	B&C	07-444-6	
Duplicate	18-Jul-90	B&C	07-444-7	
LF-B2	21-Jun-91	ANA	9106274-04	<0.050
LF-B2	16-Dec-91	ANA	9112190-05	<0.050
LF-B3	18-Jul-90	B&C	07-444-8	
LF-B3	19-Jun-91	ANA	9106245-05	<0.050
LF-B3	16-Dec-91	ANA	9112190-06	<0.050
LF-B4	18-Jul-90	B&C	07-444-3	
LF-B4	19-Jun-91	ANA	9106245-01	<0.050
LF-B4	17-Dec-91	ANA	9112188-02	<0.050

TABLE 5
HISTORICAL WATER-QUALITY DATA SUMMARY
TOTAL PETROLEUM HYDROCARBONS AS DIESEL
(Results reported in parts per million [ppm])

Well Number	Date Sampled	Lab	Lab I.D. Number	Total Petroleum Hydrocarbons as Diesel
FIELD BLANKS & TRIP BLANKS				
LF-B4-TB	18-Jul-90	B&C	07-444-1	
LF-B4-BB	18-Jul-90	B&C	07-444-2	
LF-11-TB	19-Jul-90	B&C	07-485-1	
LF-11-BB	19-Jul-90	B&C	07-485-1	
LF-B3	19-Jun-91	ANA	9106245-06	<0.050
LF-11-BR	20-Jun-91	ANA	9106251-02	<0.050
LF-4-TB	21-Jun-91	ANA	9106274-01	<0.050

Notes:
B&C = Brown and Caldwell Laboratory, Emeryville, California
ANA = Anametrix Laboratory, San Jose, California

B&C used modified EPA Method 8015 for analysis of total fuel hydrocarbons.
ANA used EPA Method 3510 for analysis of total petroleum hydrocarbons as diesel.

TABLE 6

HISTORICAL WATER-QUALITY DATA SUMMARY

INORGANIC COMPOUNDS

(All concentrations expressed in parts per million [ppm])

Well Number	Date Sampled	Lab	Lab I.D. No.	Type of Analysis	Arsenic	Cadmium	Copper	Lead	Zinc	Total Chromium	Nickel
LF-1	01-Jun-89	B&C	89060194	200/7000	200.000	<0.0400	<0.08	<0.300	0.590	NA	NA
LF-1	07-Dec-89	B&C	12-212-1	200/7000	190.000	<0.0400	<0.08	<0.300	0.020	NA	NA
LF-1	20-Jul-90	B&C	07-506-7	200/7000	120.000	<0.0500	<0.05	<0.200	0.260	NA	NA
LF-1	20-Jun-91	ANA	9106274-08	200/7000	58.000	<0.005	<0.025	<0.004	0.236	NA	0.331
LF-2	02-Jun-89	B&C	89060501	200/7000	2.600	<0.0400	<0.08	<0.300	0.010	NA	NA
LF-2	07-Dec-89	B&C	12-212-3	200/7000	17.000	<0.0400	<0.08	<0.300	<0.010	NA	NA
LF-2	20-Jul-90	B&C	07-506-5	200/7000	110.000	<0.0500	<0.05	<0.200	<0.050	NA	NA
LF-3	02-Jun-89	B&C	89060502	200/7000	27.000	<0.0400	<0.08	<0.300	<0.010	NA	NA
LF-3	07-Dec-89	B&C	12-212-2	200/7000	30.000	<0.0400	<0.08	<0.300	<0.010	NA	NA
LF-3	20-Jul-90	B&C	07-506-6	200/7000	21.000	<0.0500	<0.05	<0.200	<0.050	NA	NA
LF-3	20-Jun-91	ANA	9106274-07	200/7000	60.400	<0.005	<0.025	<0.004	0.028	NA	<0.005
LF-4	02-Jun-89	B&C	89060503	200/7000	0.530	<0.0400	<0.08	<0.300	<0.010	NA	NA
Duplicate	02-Jun-89	B&C	89060504	200/7000	0.580	<0.0400	<0.08	<0.300	7.000	NA	NA
LF-4	06-Dec-89	B&C	12-174-1	200/7000	0.420	<0.0400	<0.08	<0.300	<0.010	NA	NA
Duplicate	06-Dec-89	B&C	12-174-6	200/7000	0.550	<0.0400	<0.08	<0.300	0.010	NA	NA
LF-4	20-Jul-90	B&C	07-506-3	200/7000	0.190	<0.0500	<0.05	<0.200	<0.050	NA	NA
LF-4	20-Jun-91	ANA	9106274-02	200/7000	0.510	<0.005	<0.025	0.015	0.071	NA	<0.005
LF-4-DUP	20-Jun-91	ANA	9106274-03	200/7000	0.493	<0.005	<0.025	0.010	0.109	NA	<0.005
LF-5	01-Jun-89	B&C	89060192	200/7000	0.017	<0.0400	<0.08	<0.300	0.040	NA	NA
LF-5	06-Dec-89	B&C	12-174-2	200/7000	*<0.070	<0.0400	<0.08	<0.300	<0.010	NA	NA
LF-5	20-Jul-90	B&C	07-506-2	200/7000	0.020	<0.0500	<0.05	<0.200	0.050	NA	NA
LF-5	20-Jun-91	ANA	9108069-05	200/7000	0.038	<0.005	<0.025	0.003	<0.020	NA	<0.005
LF-6	01-Jun-89	B&C	89060193	200/7000	13.000	0.0900	<0.08	<0.300	0.120	NA	NA
LF-6	05-Dec-89	B&C	12-128-3	200/7000	16.000	0.0600	<0.08	<0.300	<0.010	NA	NA
LF-6	20-Jul-90	B&C	07-506-4	200/7000	14.000	<0.0500	<0.05	<0.200	0.060	NA	NA

TABLE 6

HISTORICAL WATER-QUALITY DATA SUMMARY

INORGANIC COMPOUNDS

(All concentrations expressed in parts per million [ppm])

Well Number	Date Sampled	Lab	Lab I.D. No.	Type of Analysis	Arsenic	Cadmium	Copper	Lead	Zinc	Total Chromium	Nickel
LF-7	01-Jun-89	B&C	89060191	200/7000	0.008	<0.0400	<0.08	<0.300	<0.010	NA	NA
LF-7	06-Dec-89	B&C	12-174-3	200/7000	*<0.070	<0.0400	<0.08	<0.300	0.020	NA	NA
LF-7	19-Jul-90	B&C	07-485-4	200/7000	<0.002	<0.0500	<0.05	<0.200	<0.050	NA	NA
LF-7	20-Jun-91	ANA	9106251-06	200/7000	0.012	<0.005	<0.025	<0.004	<0.020	NA	<0.005
LF-7	17-Dec-91	ANA	9112188-06	200/7000	<0.010	<0.005	<0.025	<0.003	<0.020	<0.010	<0.005
LF-8	05-Dec-89	B&C	12-128-4	200/7000	*<0.070	<0.0400	<0.08	<0.300	<0.010	NA	NA
LF-8	19-Jul-90	B&C	07-485-4	200/7000	<0.002	<0.0500	<0.05	<0.200	<0.050	NA	NA
LF-8	21-Dec-90	B&C	12-529-3	200/7000	0.020	0.0015	0.09	<0.200	0.250	NA	NA
LF-8	20-Jun-91	ANA	9106251-07	200/7000	0.021	<0.005	<0.025	<0.004	<0.020	NA	<0.005
LF-8	17-Dec-91	ANA	9112188-07	200/7000	0.016	<0.005	<0.025	<0.003	<0.020	<0.010	<0.005
LF-9	05-Dec-89	B&C	12-128-1	200/7000	0.067	<0.0400	<0.08	<0.300	0.020	NA	NA
LF-9	19-Jul-90	B&C	07-485-7	200/7000	0.008	<0.0500	<0.05	<0.200	<0.050	NA	NA
LF-9	21-Dec-90	B&C	12-529-5	200/7000	0.120	0.0029	<0.05	<0.200	0.730	NA	NA
LF-9	20-Jun-91	ANA	9106274-05	200/7000	0.075	<0.005	<0.025	0.012	0.100	NA	<0.005
LF-9	06-Aug-91	ANA	9108069-02	200/7000	0.131	NA	NA	NA	NA	NA	NA
LF-9	16-Dec-91	ANA	9112189-02	200/7000	0.046	<0.005	<0.025	<0.003	0.039	<0.010	<0.005
LF-10	07-Dec-89	B&C	12-212-5	200/7000	0.650	<0.0400	<0.08	<0.300	<0.010	NA	NA
LF-10	19-Jul-90	B&C	07-485-7	200/7000	0.012	<0.0500	<0.05	<0.200	<0.050	NA	NA
Duplicate	19-Jul-90	B&C	07-485-8	200/7000	0.008	<0.0500	<0.05	<0.300	0.070	NA	NA
LF-10	21-Dec-90	B&C	12-529-6	200/7000	1.000	0.0009	<0.05	<0.200	<0.050	NA	NA
Duplicate	21-Dec-90	B&C	12-529-7	200/7000	1.100	0.0007	<0.05	<0.300	0.070	NA	NA
LF-10	20-Jun-91	ANA	9106274-06	200/7000	0.657	<0.005	<0.025	0.013	0.064	NA	0.006
LF-10	06-Aug-91	ANA	9108069-02	200/7000	1.090	NA	NA	NA	NA	NA	NA
LF-10	18-Dec-91	ANA	9112189-04	200/7000	0.704	<0.005	<0.025	<0.003	0.028	<0.010	<0.005
Duplicate	18-Dec-91	ANA	9112188-05	200/7000	0.549	<0.005	<0.025	<0.003	<0.020	<0.010	<0.005
LF-11	05-Dec-89	B&C	12-128-2	200/7000	*<0.070	<0.0400	<0.08	<0.300	0.020	NA	NA
LF-11	19-Jul-90	B&C	07-485-5	200/7000	0.007	<0.0500	<0.05	<0.200	<0.050	NA	NA

TABLE 6

HISTORICAL WATER-QUALITY DATA SUMMARY

INORGANIC COMPOUNDS

(All concentrations expressed in parts per million [ppm])

Well Number	Date Sampled	Lab	Lab I.D. No.	Type of Analysis	Arsenic	Cadmium	Copper	Lead	Zinc	Total Chromium	Nickel
LF-11	21-Dec-90	B&C	12-529-4	200/7000	0.011	0.0006	<0.05	<0.200	<0.050	NA	NA
LF-11	20-Jun-91	ANA	9106251-06	200/7000	0.023	<0.005	<0.025	0.007	<0.020	NA	0.005
LF-11	20-Jun-91	ANA	9106251-07	200/7000	0.024	<0.005	<0.025	0.006	<0.020	NA	0.007
LF-11	06-Aug-91	ANA	9108069-04	200/7000	0.021	NA	NA	NA	NA	NA	NA
LF-11	17-Dec-91	ANA	9112188-08	200/7000	0.011	<0.005	<0.025	<0.003	<0.020	<0.010	<0.005
LF-12	06-Dec-89	B&C	12-174-2	200/7000	*<0.070	<0.0400	<0.08	<0.300	0.020	NA	NA
LF-12	18-Jul-90	B&C	07-444-5	200/7000	0.004	<0.0500	<0.05	<0.300	<0.200	NA	NA
LF-12	19-Jun-91	ANA	9106245-04	200/7000	<0.010	<0.005	<0.025	<0.004	<0.020	NA	0.014
LF-12	16-Dec-91	ANA	9112190-02	200/7000	<0.010	<0.005	<0.025	<0.003	0.024	<0.010	<0.005
LF-13	06-Dec-89	B&C	12-174-7	200/7000	*<0.070	<0.0400	<0.08	<0.300	0.020	NA	NA
LF-13	18-Jul-90	B&C	07-444-4	200/7000	<0.002	<0.0500	<0.05	<0.200	<0.050	NA	NA
LF-13	19-Dec-90	B&C	12-474-4	200/7000	<0.002	<0.0005	<0.05	<0.200	<0.050	NA	NA
LF-13	19-Jun-91	ANA	9106245-03	200/7000	<0.010	<0.005	<0.025	<0.004	<0.020	NA	0.013
LF-13	16-Dec-91	ANA	9112190-03	200/7000	<0.010	<0.005	<0.025	<0.003	<0.020	<0.010	<0.005
LF-14	04-Sep-90	B&C	09-014-1	200/7000	0.092	<0.0005	<0.005	0.007	<0.050	NA	NA
LF-14	02-Oct-90	B&C	10-034-2	200/7000	0.077	NA	NA	NA	NA	NA	NA
LF-14	20-Dec-90	B&C	12-505-7	200/7000	0.150	0.0036	<0.050	<0.200	0.410	NA	NA
LF-14	20-Jun-91	ANA	9106251-08	200/7000	0.095	<0.005	<0.025	<0.004	<0.020	NA	<0.005
LF-14	17-Dec-91	ANA	9112188-04	200/7000	0.104	<0.005	<0.025	<0.003	<0.020	<0.010	<0.005
LF-15	04-Sep-90	B&C	09-014-2	200/7000	0.002	<0.0005	<0.005	0.043	<0.050	NA	NA
LF-15	20-Dec-90	B&C	12-505-6	200/7000	0.007	0.0007	<0.05	<0.200	0.100	NA	NA
LF-15	20-Jun-91	ANA	9106251-09	200/7000	<0.010	<0.005	<0.025	<0.004	<0.020	NA	0.006
LF-15	17-Dec-91	ANA	9112188-03	200/7000	<0.010	<0.005	<0.025	<0.003	0.026	<0.010	<0.005
LF-16	04-Sep-90	B&C	09-014-3	200/7000	0.003	<0.0005	<0.005	<0.002	<0.050	NA	NA
LF-16	20-Dec-90	B&C	12-505-5	200/7000	0.003	0.0007	<0.05	<0.200	0.070	NA	NA
LF-16	20-Jun-91	ANA	9106251-10	200/7000	0.010	<0.005	<0.025	<0.004	<0.020	NA	0.018

TABLE 6

HISTORICAL WATER-QUALITY DATA SUMMARY

INORGANIC COMPOUNDS

(All concentrations expressed in parts per million [ppm])

Well Number	Date Sampled	Lab	Lab I.D. No.	Type of Analysis	Arsenic	Cadmium	Copper	Lead	Zinc	Total Chromium	Nickel
LF-16	17-Dec-91	ANA	9112188-05	200/7000	<0.010	<0.005	<0.025	<0.003	0.025	<0.010	<0.005
LF-B1	07-Dec-89	B&C	12-212-6	200/7000	*<0.070	<0.0400	<0.08	<0.300	<0.010	NA	NA
LF-B1	18-Jul-90	B&C	7-444-6	200/7000	0.007	<0.0500	<0.05	<0.2	<0.050	NA	NA
LF-B1	20-Dec-90	B&C	12-505-4	200/7000	0.005	0.0010	<0.05	<0.200	<0.050	NA	NA
LF-B1	20-Jun-91	ANA	9106251-05	200/7000	<0.010	<0.005	<0.025	0.004	<0.020	NA	<0.005
LF-B1	16-Dec-91	ANA	9112190-04	200/7000	<0.010	<0.005	<0.025	<0.003	<0.020	<0.010	<0.005
LF-B2	06-Dec-89	B&C	12-174-5	200/7000	*<0.070	<0.0400	<0.08	<0.300	0.020	NA	NA
LF-B2	18-Jul-90	B&C	7-444-9	200/7000	0.005	<0.0500	<0.05	<0.200	<0.050	NA	NA
Duplicate	18-Jul-90	B&C	7-444-	200/7000	0.004	<0.0500	<0.05	<0.200	<0.050	NA	NA
LF-B2	19-Dec-90	B&C	12-474-6	200/7000	0.008	0.0026	<0.05	<0.200	0.170	NA	NA
LF-B2	20-Jun-91	ANA	9106274-04	200/7000	<0.010	<0.005	<0.025	0.005	0.075	NA	<0.005
LF-B2	16-Dec-91	ANA	9112190-05	200/7000	<0.010	<0.005	<0.025	<0.003	<0.020	<0.010	<0.005
LF-B3	07-Dec-89	B&C	12-212-6	200/7000	*<0.070	<0.0400	<0.08	<0.300	0.010	NA	NA
LF-B3	18-Jul-90	B&C	7-444-8	200/7000	0.003	<0.0500	<0.05	<0.200	<0.050	NA	NA
LF-B3	20-Dec-90	B&C	12-505-3	200/7000	0.002	<0.0005	<0.05	<0.200	<0.050	NA	NA
LF-B3	19-Jun-91	ANA	9106245-05	200/7000	<0.010	<0.005	<0.025	<0.004	<0.020	NA	<0.005
LF-B3	16-Dec-91	ANA	9112190-06	200/7000	<0.010	<0.005	<0.025	<0.003	<0.020	<0.010	0.016
LF-B4	17-Jul-90	B&C	07-444-3	200/7000	0.003	<0.0500	<0.05	<0.200	<0.050	NA	NA
LF-B4	19-Dec-90	B&C	12-474-3	200/7000	<0.002	0.0014	<0.05	<0.200	0.080	NA	NA
LF-B4	19-Jun-91	ANA	9106245-01	200/7000	<0.010	<0.005	<0.025	<0.004	<0.020	NA	<0.005
LF-B4	17-Dec-91	ANA	9112188-02	200/7000	<0.010	<0.005	<0.025	<0.003	0.029	<0.010	<0.005

TABLE 6

HISTORICAL WATER-QUALITY DATA SUMMARY

INORGANIC COMPOUNDS

(All concentrations expressed in parts per million (ppm))

Well Number	Date Sampled	Lab	Lab I.D. No.	Type of Analysis	Arsenic	Cadmium	Copper	Lead	Zinc	Total Chromium	Nickel
FIELD & TRIP BLANKS											
LF-1-FB	01-Jun-89	B&C	89060195	200/7000	0.012	<0.0400	<0.08	<0.300	<0.010	NA	NA
LF-1-FB	07-Dec-89	B&C	12-212-2	200/7000	0.003	<0.0400	<0.08	<0.300	<0.010	NA	NA
LF-B1-FB	07-Dec-89	B&C	12-212-7	200/7000	0.014	<0.0400	<0.08	<0.300	<0.010	NA	NA
Trip Blank	07-Dec-89	B&C	12-212-9	200/7000	0.013	<0.0400	<0.08	<0.300	<0.010	NA	NA
LF-B4-TB	18-Jul-90	B&C	07-444-1	200/7000	<0.002	<0.0500	<0.05	<0.200	<0.050	NA	NA
LF-B4-BB	18-Jul-90	B&C	07-444-2	200/7000	<0.002	<0.0500	<0.05	<0.200	0.060	NA	NA
LF-11-TB	19-Jul-90	B&C	07-485-1	200/7000	<0.002	<0.0500	<0.05	0.200	<0.050	NA	NA
LF-11-BB	19-Jul-90	B&C	07-485-2	200/7000	<0.002	<0.0500	<0.05	<0.200	<0.050	NA	NA
LF-5- TB	20-Jul-90	B&C	07-506-1	200/7000	0.002	<0.0500	<0.05	<0.200	<0.050	NA	NA
LF-16-TB	04-Sep-90	B&C	09-014-4	200/7000	<0.002	<0.0005	<0.005	0.005	<0.050	NA	NA
LF-B4-TB	19-Dec-90	B&C	12-474-1	200/7000	<0.002	<0.0005	<0.05	<0.200	<0.050	NA	NA
LF-B4-BB	19-Dec-90	B&C	12-474-2	200/7000	<0.002	<0.0005	<0.05	<0.200	0.060	NA	NA
LF-B3-TB	20-Dec-90	B&C	12-505-1	200/7000	<0.002	<0.0005	<0.05	<0.200	<0.050	NA	NA
LF-B3-BR	20-Dec-90	B&C	12-505-2	200/7000	<0.002	<0.0005	<0.05	<0.200	<0.050	NA	NA
LF-8-TB	21-Dec-90	B&C	12-529-1	200/7000	<0.002	<0.0005	<0.05	<0.200	<0.050	NA	NA
LF-8-BR	21-Dec-90	B&C	12-529-2	200/7000	<0.002	<0.0005	<0.05	<0.200	<0.050	NA	NA
LF-B3-BR	19-Jun-91	ANA	9106245-06	200/7000	<0.010	<0.005	<0.025	<0.004	<0.020	NA	<0.005
LF-B4-TB	19-Jun-91	ANA	9106245-02	200/7000	<0.010	<0.005	<0.025	<0.004	<0.020	NA	<0.005
LF-4-TB	20-Jun-91	ANA	9106274-01	200/7000	<0.010	<0.005	<0.025	<0.004	<0.020	NA	<0.005
LF-11-TB	20-Jun-91	ANA	9106251-01	200/7000	<0.010	<0.005	<0.025	<0.004	<0.020	NA	<0.005
LF-11-BR	20-Jun-91	ANA	9106251-02	200/7000	<0.010	<0.005	<0.025	<0.004	<0.020	NA	<0.005
Trip Blank	20-Jun-91	ANA	9108069-01	200/7000	<0.010	NA	NA	<0.003	<0.020	NA	NA
Field Blank	18-Dec-91	ANA	9112189-01	200/7000	<0.010	<0.005	<0.025	<0.003	<0.020	<0.010	<0.005
Trip Blank	16-Dec-91	ANA	9112190-01	200/7000	<0.010	<0.005	<0.025	<0.003	<0.020	<0.010	<0.005
Trip Blank	17-Dec-91	ANA	9112188-01	200/7000	<0.010	<0.005	<0.025	<0.003	<0.020	<0.010	<0.005

TABLE 6

HISTORICAL WATER-QUALITY DATA SUMMARY

INORGANIC COMPOUNDS

(All concentrations expressed in parts per million [ppm])

Well Number	Date Sampled	Lab	Lab I.D. No.	Type of Analysis	Arsenic	Cadmium	Copper	Lead	Zinc	Total Chromium	Nickel

Notes to Table 6:

* = Data not validated based on positive results of trip blank (0.014 ppm) or bailer rinsate blank (0.013 ppm) of submitted samples. Detection Limit for arsenic for December 1989 sampling period set at 0.070 ppm or 5 times the reported value of 0.014 ppm for trip blank sample.

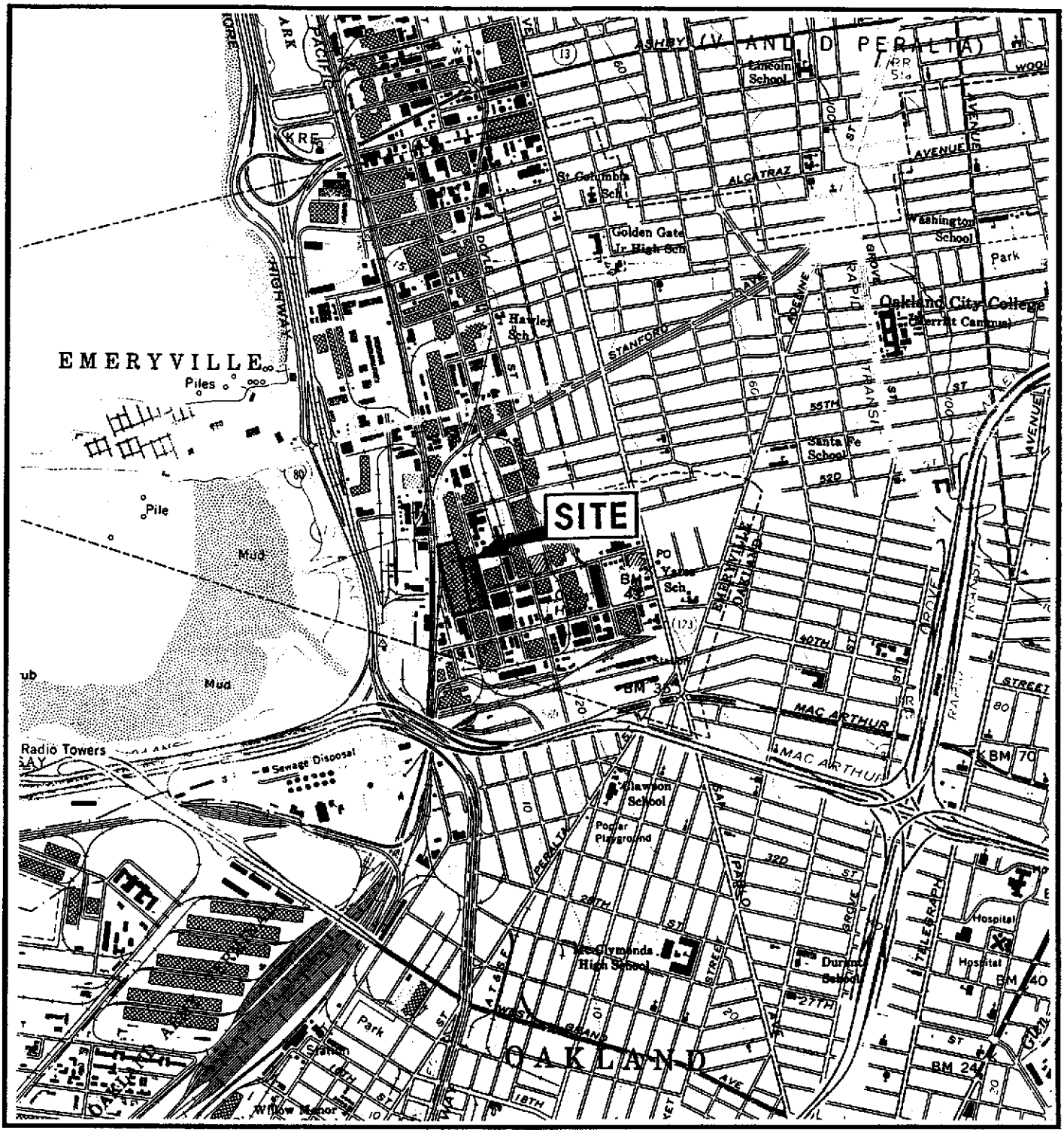
NA = Not Analyzed

200/7000 = EPA Method 200/6000/7000 Series for selected metals.

Analytical Laboratories:

B&C - Brown and Caldwell Laboratory, Emeryville, California.

ANA - Anametrix Laboratory, San Jose, California



MAP SOURCE:
U.S.G.S. Oakland West Quadrangle,
Oakland, California
7.5 Minute Series

Figure 1 : SITE LOCATION MAP

Project No. 1563

LEVINE • FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

JDR11JUL89em

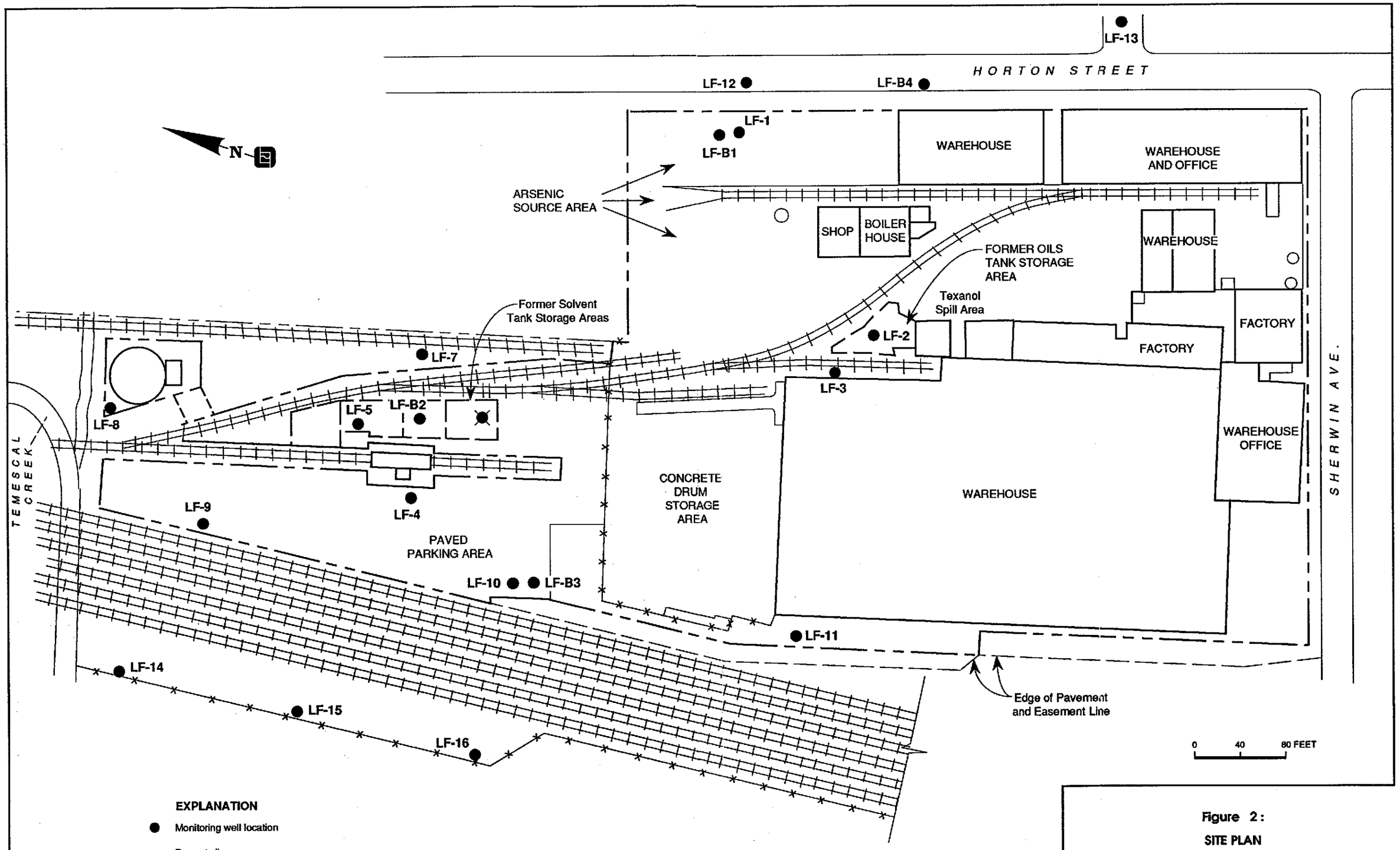


Figure 2:

SITE PLAN

Project No. 1563

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ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

1563-02 020392DAT

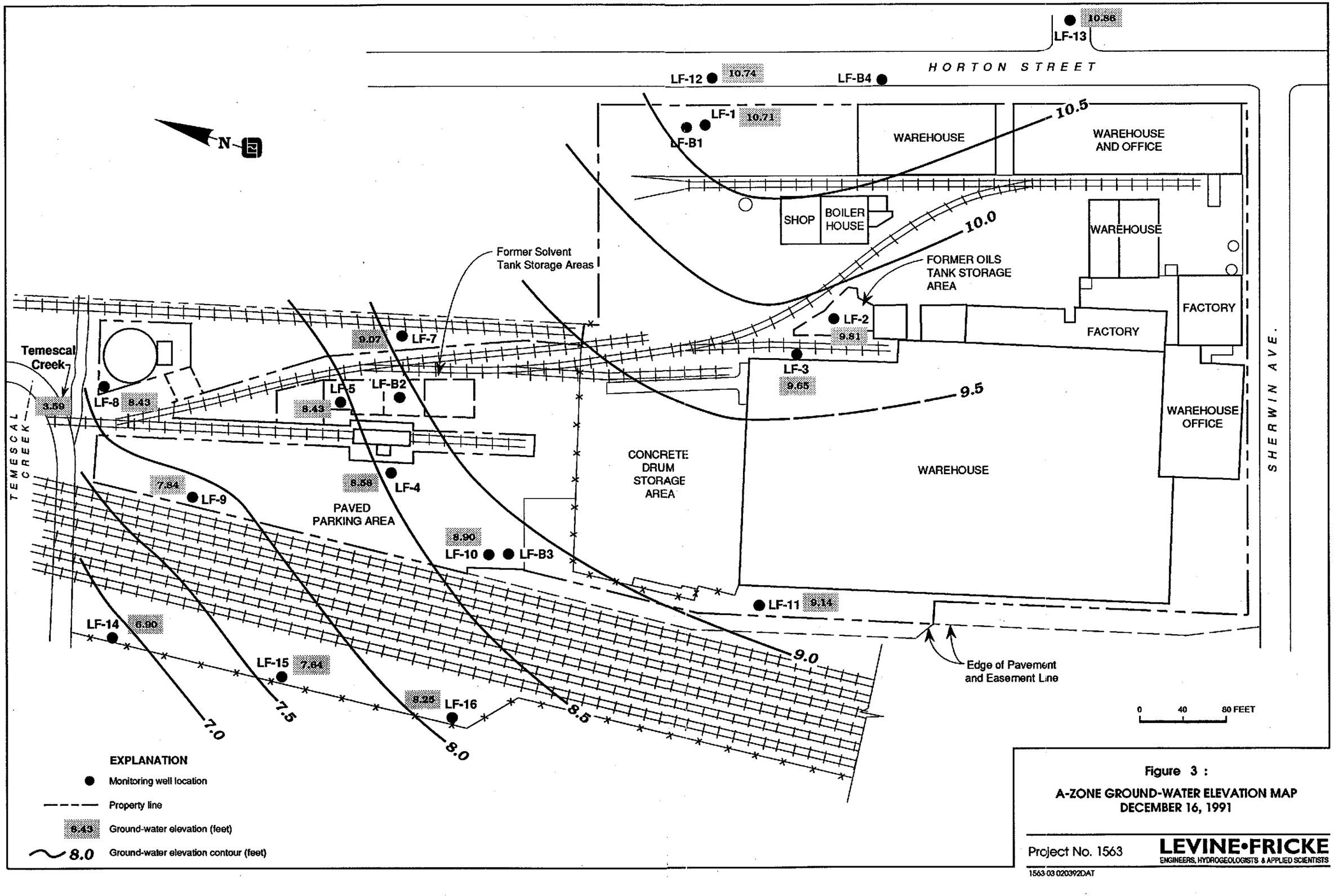

Figure 3 :

A-ZONE GROUND-WATER ELEVATION MAP
DECEMBER 16, 1991

Project No. 1563

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ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

1563-03 020392DAT

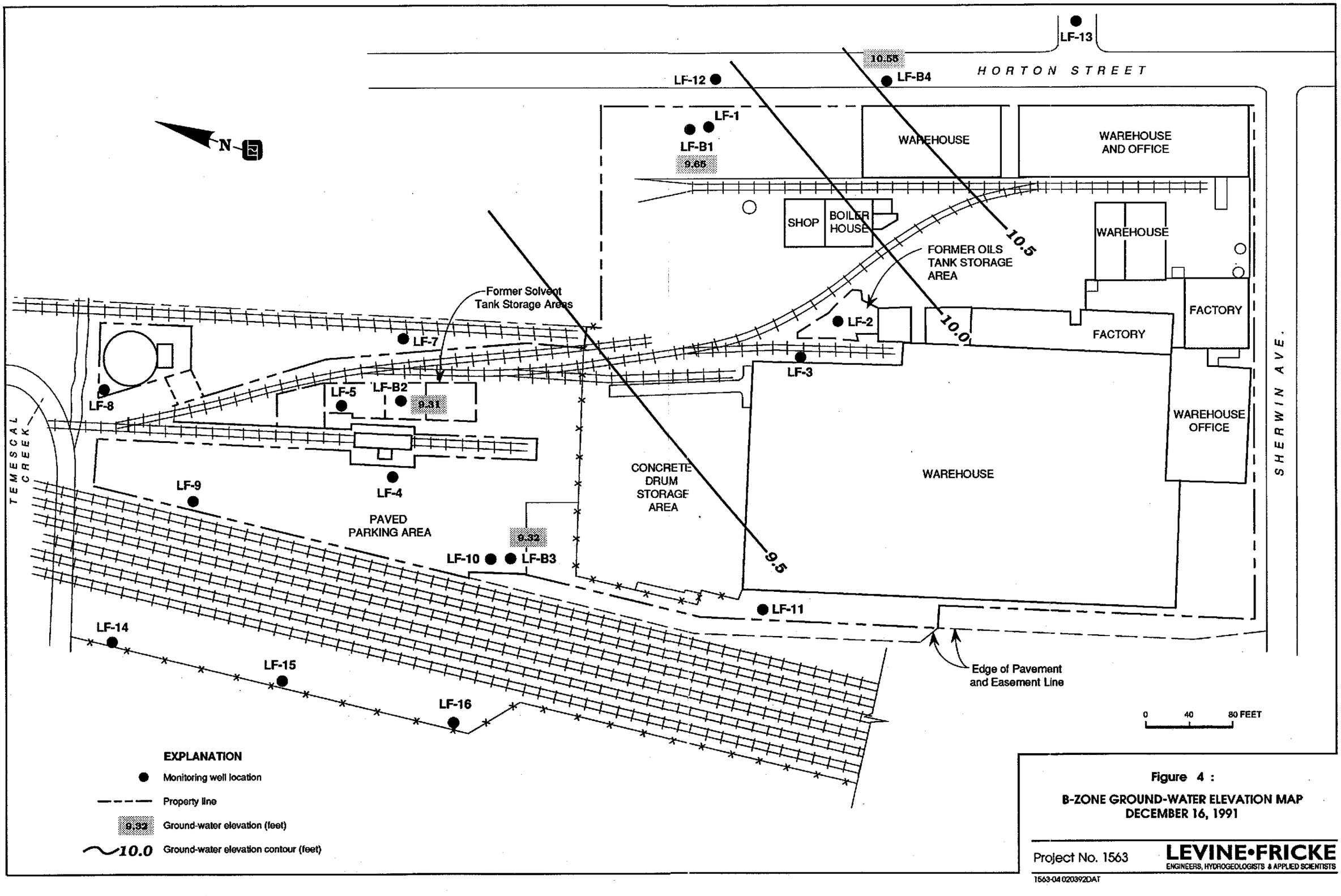

Figure 4 :

B-ZONE GROUND-WATER ELEVATION MAP
DECEMBER 16, 1991

Project No. 1563

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

1563-04 020392DAT

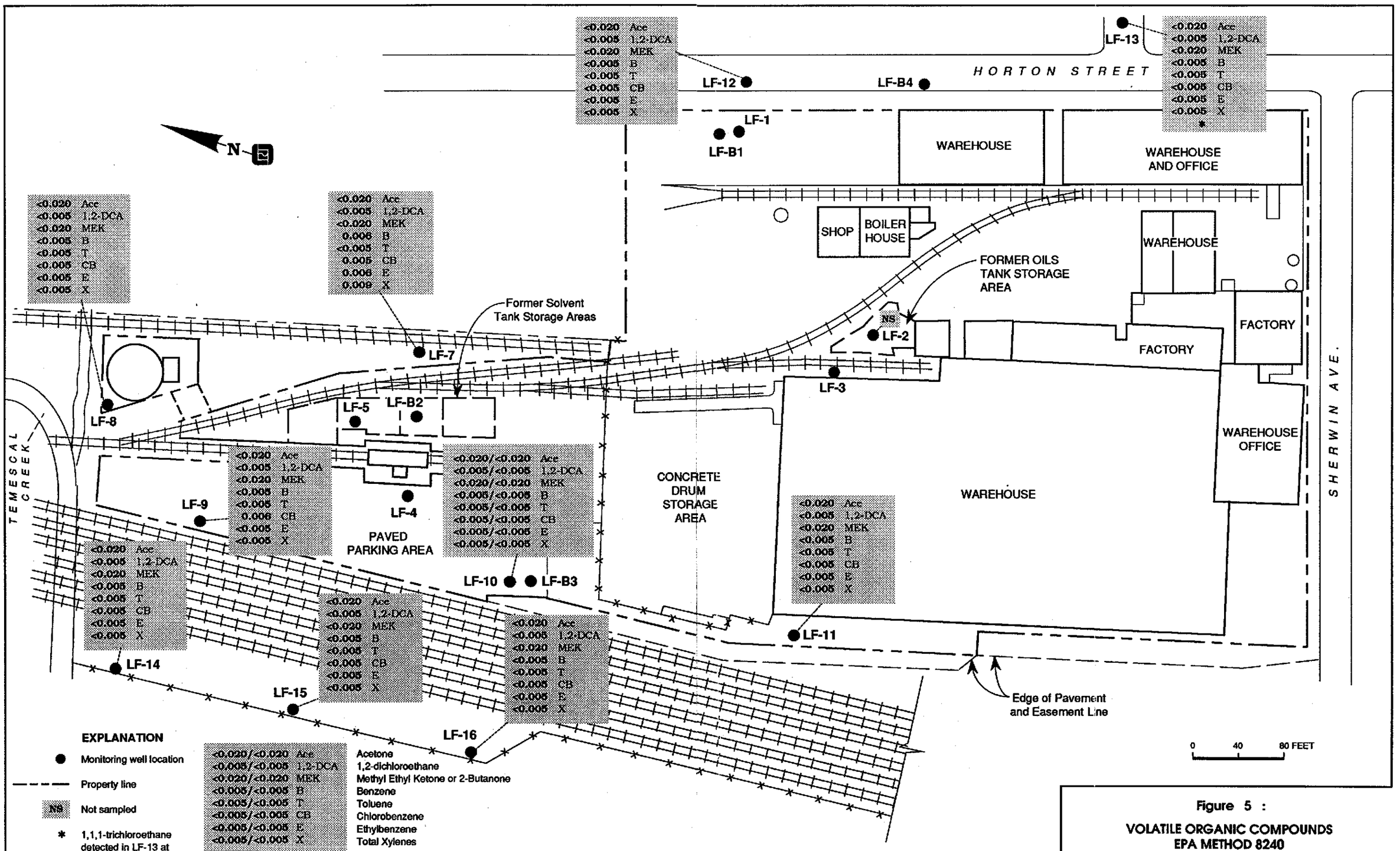

Figure 5 :

VOLATILE ORGANIC COMPOUNDS
EPA METHOD 8240
A-ZONE GROUND WATER, DECEMBER 1991

Project No. 1563

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

1563-05 020392DAT

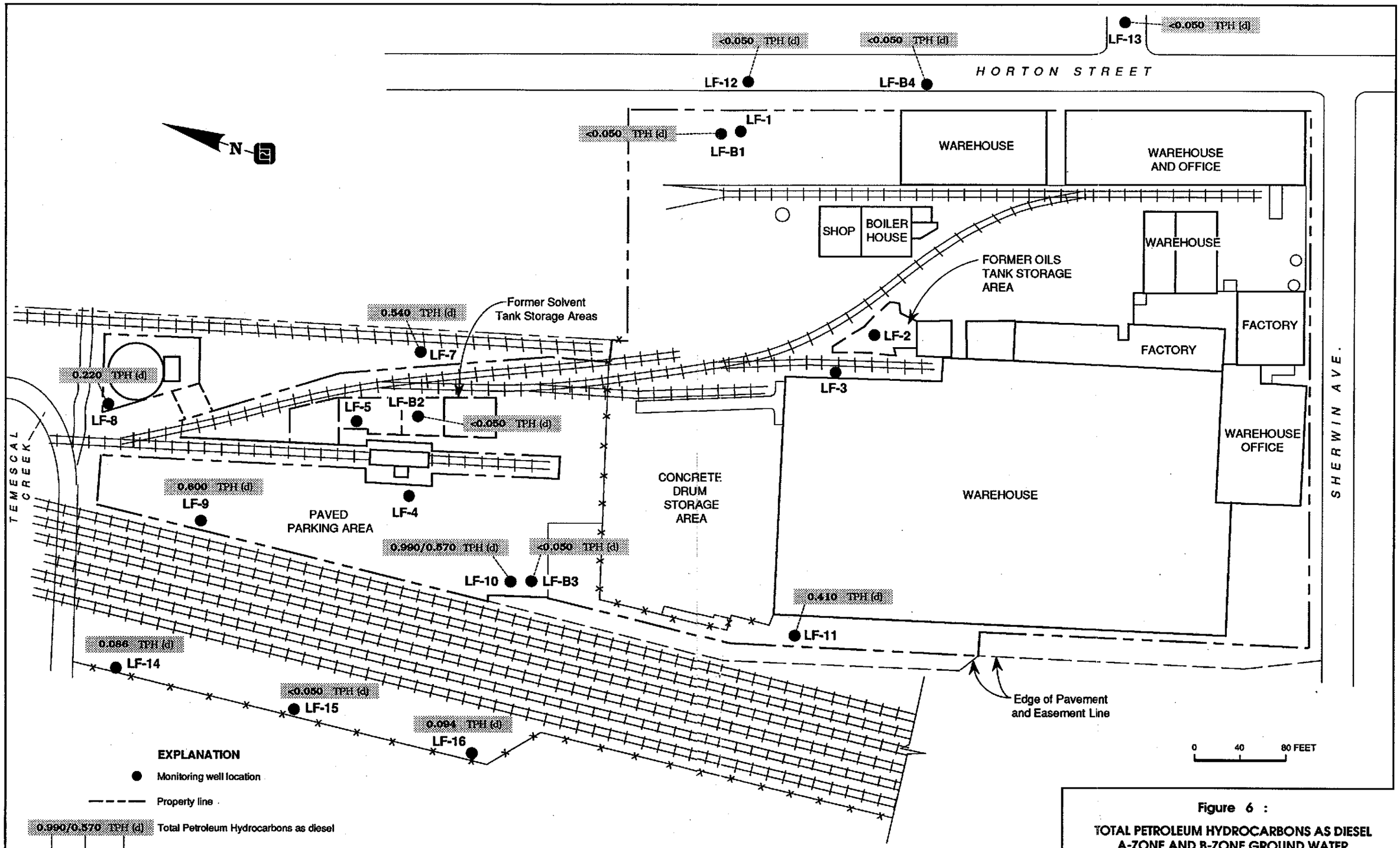

Figure 6 :

TOTAL PETROLEUM HYDROCARBONS AS DIESEL A-ZONE AND B-ZONE GROUND WATER DECEMBER 1991

Project No. 1563

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1563-06 020392DAT

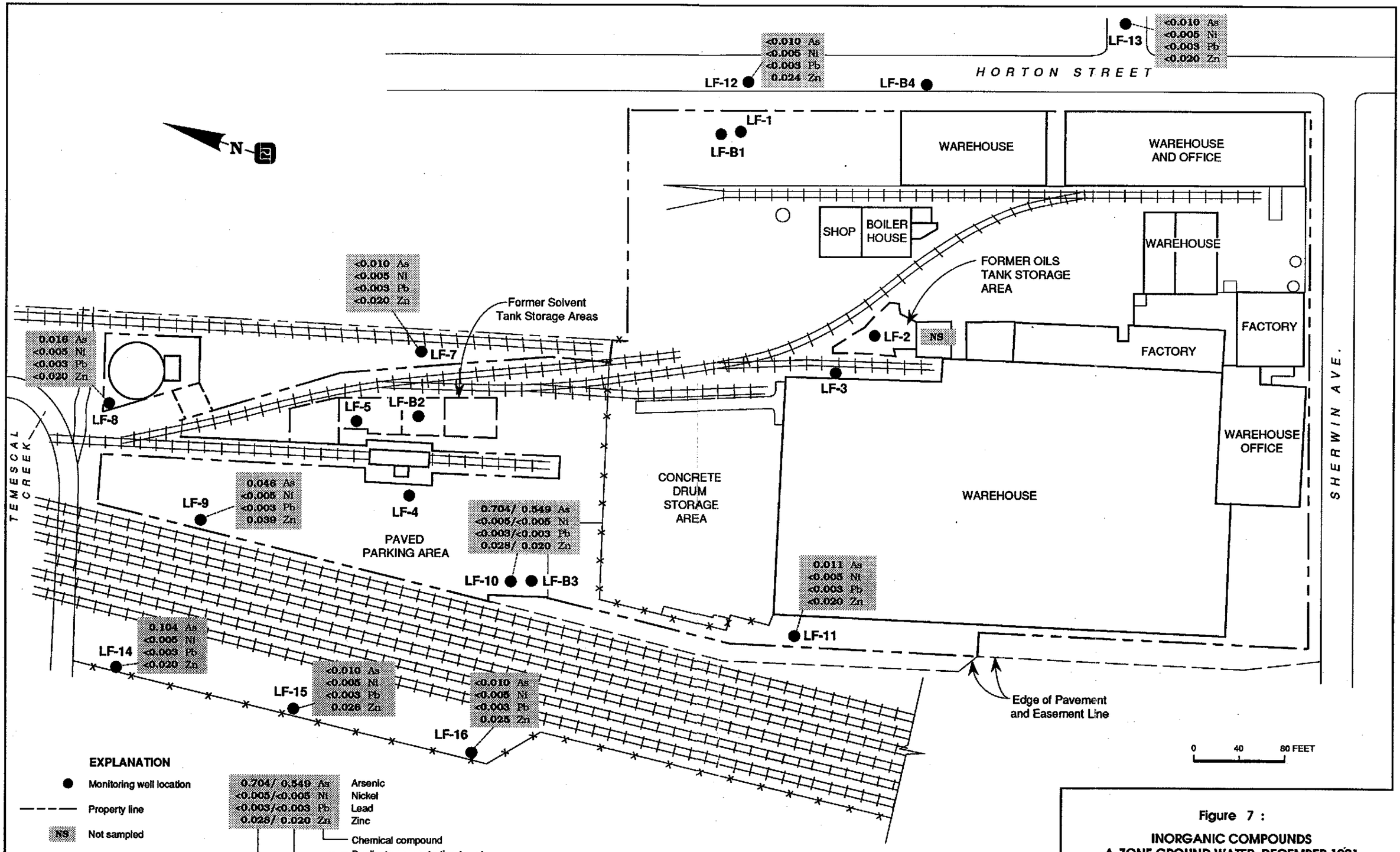

Figure 7 :

INORGANIC COMPOUNDS
A-ZONE GROUND WATER, DECEMBER 1991

Project No. 1563

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

1563-07 020392DAT

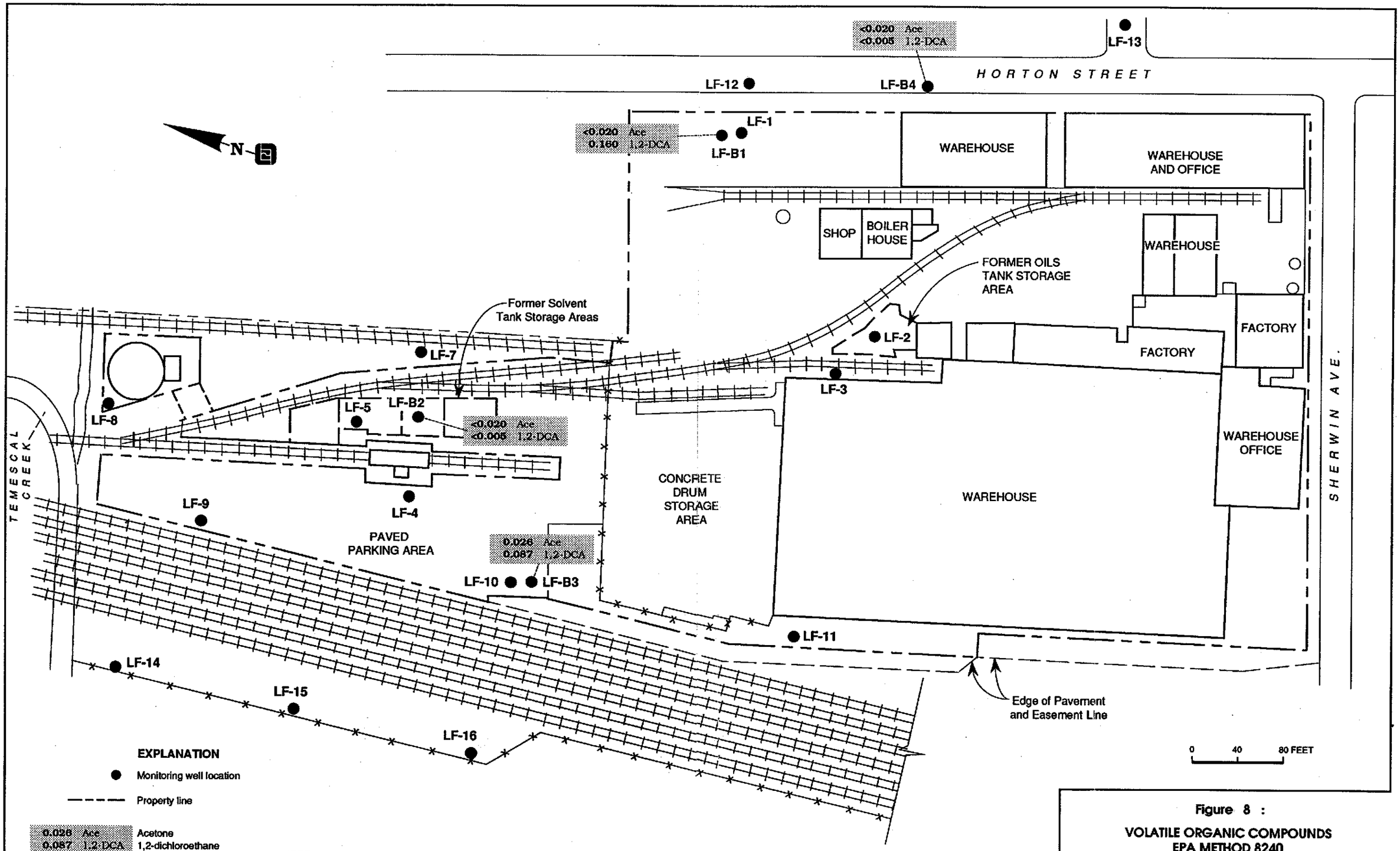

Figure 8 :

VOLATILE ORGANIC COMPOUNDS
EPA METHOD 8240
B-ZONE GROUND WATER, DECEMBER 1991

Project No. 1563

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

1563-08 020392DAT

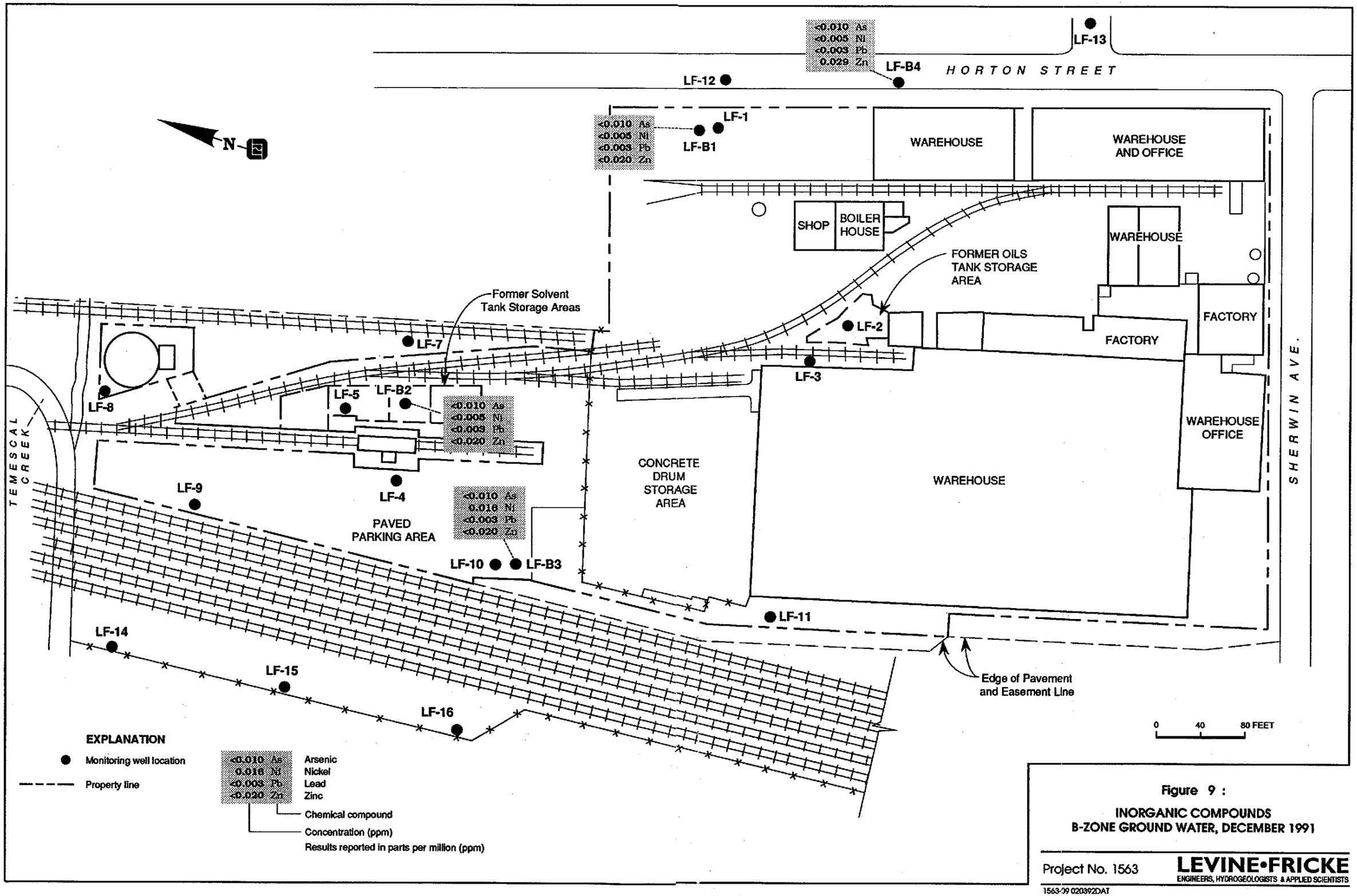

Figure 9 :

INORGANIC COMPOUNDS
B-ZONE GROUND WATER, DECEMBER 1991

Project No. 1563

LEVINE•FRICKE
ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

1563-09 020392DAT

APPENDIX A

GROUND-WATER SAMPLING FIELD DATA SHEETS

LEVINE • FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin Williams
Project No.: 1563.06
Date: 12-16-91
Sample No.: LF-12
Samplers Name: KAG - TLL
Sampling Location: LF-12
Sampling Method: cent. pump / teflon bailer
Analyses Requested: 8240, 8270, TPH(d), basin plan metals
Number and Types of Sample Bottles used: 2 VOA, 4-1 liter amber, 2 plastic
Method of Shipment:

17.01
7.09
9.02
.16
5412
9020
14432

LOCATION MAP

GROUND WATER

Well No.: LF-12
Well Diameter (in.): 2 inch
Depth to Water, Static (ft): 7.09
Water in Well Box: no
Well Depth (ft): 17.01
Height of Water Column in Well: 9.02
Water Volume in Well: ≃ 1.5 gal

SURFACE WATER

Stream Width:
Stream Depth:
Stream Velocity:
Rained recently ?:
Other:

2-inch casing = 0.16 gal/ft
4-inch casing = 0.65 gal/ft
5-inch casing = 1.02 gal/ft
6-inch casing = 1.47 gal/ft

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1124								Pump on
1125		1.5	18.6	7.09	555			very turbid
1126		3.0	19.0	7.01	576			"
1127		4.5	19.3	6.96	579			" / pump off
1135								Sampled LF-12
1146	10.07							

Suggested Method for Purging Well:

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Sherwin Williams — Project No. 1563.06

Date 12/16/91 — Sample No. LF-13

Samplers Name KAG, TLL

Sampling Location Emeryville

Sampling Method Cent. Pump / Disposable Teflon Bailer

Analyses Requested EPA 8240, 8270, TPH(diesel), Basin Plan Metals

Number and Types of Sample Bottles used 2 voas, 4 brown liters, 2 plastic liters

Method of Shipment Carrier Pickup

17.07
- 6.76
10.31
× .16
6186
10310
1.6496

GROUND WATER

Well No. LF-13

Well Diameter (in.) 2

Depth to Water, Static (ft) 6.76

Water in Well Box none

Well Depth (ft) 17.07

Height of Water Column in Well 10.31

Water Volume in Well 1.65≈ 1.75 gal

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (umhos/cm)	OTHER		REMARKS
1154								pump on
1155		1.75	17.7	7.06	558			very turbid
1157		3.50	18.8	7.13	584			sl turbid-turbid
1158		5.25	19.8	7.20	595			clear-sl turbid/pump off
1205								sampled LF-13
1212	7.53							

Suggested Method for Purging Well

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Sherwin Williams

Project No. 1563.06

Date 12/16/91

Sample No. LF-B1

Samplers Name KAG, TL

Sampling Location Emeryville

Sampling Method Geot. Pump / Disposable Teflon Bailer

Analyses Requested EPA 8240, 8270, TPH diesel, Basin Plan Metals

Number and Types of Sample Bottles used 2 vocs, 4 amber liters, 2 plastic liters

Method of Shipment Courier Pick-up

54.40
-10.32
44.08
x .16
26448
44080
7.0528

GROUND WATER

Well No. LF-B1

Well Diameter (in.) 2

Depth to Water, Static (ft) 10.32

Water in Well Box yes

Well Depth (ft) 54.40

Height of Water Column in Well 44.08

Water Volume in Well ≈7.0 gal

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1327								pump on
1328		7.0	19.3	7.61	619			sl. turbid
1330		14.0	19.9	7.40	611			clear
1332		21.0	19.8	7.37	607			clear / pump off
1340								sample
1348	12.13							

Suggested Method for Purging Well

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Sherwin-Williams Project No. 1563.06

Date 12-16-91 Sample No. LF-B2

Samplers Name KAG-TLL

Sampling Location LF-B2

Sampling Method cent. pump / teflon bailer

Analyses Requested EPA 8240, 8270, TPH(d) Boron Plus Metals

Number and Types of Sample Bottles used 2 VOA, 4 amber (1 liter, 2 plast liters)

Method of Shipment Courier Pick-up

GROUND WATER

Well No. LF-B2

Well Diameter (in.) 2 inch

Depth to Water, Static (ft) 3.22

Water in Well Box no

Well Depth (ft) 37.25

Height of Water Column in Well 34.03

Water Volume in Well ≈ 6 gal

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently?

Other

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

37.25
3.22
34.03
.16
2041 8
34030
5.44 4.8

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1403		0.0						pump on
1404		6.0	18.0	7.27	758			clear-sl. turbid
1405		12.0	18.0	7.23	799			sl. turbid-turbid
1406		18.0	18.0	7.21	812			sl. turbid-clear / pump off
1415								sampled LF-B2
1421	3.38							

Suggested Method for Purging Well

10-30-89
LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Sherwin - Williams
Project No. 1563.06
Date 12-16-91
Sample No. LF-3B
Samplers Name KAG-TLL
Sampling Location LF-3B
Sampling Method cent. pump / teflon bailer
Analyses Requested 8240, 8270, TPH(d), basin plan metals
Number and Types of Sample Bottles used 2 VOA, 4-liter amber, 2 plastic
Method of Shipment

GROUND WATER		SURFACE WATER	
Well No.	LF-3B	Stream Width	
Well Diameter (in.)	2 inch	Stream Depth	
Depth to Water, Static (ft)	3.90	Stream Velocity	
Water in Well Box	no	Rained recently ?	
Well Depth (ft)	39.02	Other	
Height of Water Column in Well	35.12		
Water Volume in Well	≈ 6 gal		

2-inch casing = 0.16 gal/ft
4-inch casing = 0.65 gal/ft
5-inch casing = 1.02 gal/ft
6-inch casing = 1.47 gal/ft

39.02
3.90
35.12
.16
2 1072
3 5120
5.6192

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1434								pump on
1435		6.0	18.8	7.53	714			turbid
1436		12.0	18.9	7.37	673			clear
1437		18.0	18.8	7.35	664			clear / pump off
1445								sampled LF-3B
1450	4.01							

Suggested Method for Purging Well

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin - Williams
Project No.: 1563.06
Date: 12-17-91
Sample No.: LF-B4
Samplers Name: KAG- TLL
Sampling Location: LF- B4
Sampling Method: cent. pump | teflon bailer
Analyses Requested: BPA 8240, TPH diesel
Number and Types of Sample Bottles used:
Method of Shipment:

GROUND WATER

Well No.: LF-B1
Well Diameter (in.): 2
Depth to Water, Static (ft): 6.83
Water in Well Box: none
Well Depth (ft): 44.92
Height of Water Column in Well: 38.09
Water Volume in Well: ≈6 gal

SURFACE WATER

Stream Width:
Stream Depth:
Stream Velocity:
Rained recently?:
Other:

2-inch casing = 0.16 gal/ft
4-inch casing = 0.65 gal/ft
5-inch casing = 1.02 gal/ft
6-inch casing = 1.47 gal/ft

44.92
- 6.83
38.09
x .16
22854
38090
6.0944

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
925								pump on
926		6.0	17.9	6.91	664			sl turbid
927		12.0	18.2	6.92	670			clear- sl turbid
928		18.0	18.3	6.95	672			clear
935								sampled LF-B4
940	6.91	48±						

Suggested Method for Purging Well:

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin Williams
Project No.: 1563.06
Date: 12/17/91
Sample No.: LF-15
Samplers Name: KAG, TLL
Sampling Location: Emeryville
Sampling Method: Cent Pump / Disposable Teflon Bailer
Analyses Requested: EPA 8240, TPH diesel, Basin Plan Metals
Number and Types of Sample Bottles used: 2 voas, 2 amber liters 2 plastic liters
Method of Shipment: Carrier Pickup

18.61	
-5.00	
13.61	
x .16	
8166	
13610	
2.1776	

LOCATION MAP

GROUND WATER

Well No.: LF-15
Well Diameter (in.): 2
Depth to Water, Static (ft): 5.00
Water in Well Box: yes
Well Depth (ft): 18.61
Height of Water Column in Well: 13.61
Water Volume in Well: ≈2.5 gal

SURFACE WATER

Stream Width
Stream Depth
Stream Velocity
Rained recently ?
Other

2-inch casing = 0.16 gal/ft
4-inch casing = 0.65 gal/ft
5-inch casing = 1.02 gal/ft
6-inch casing = 1.47 gal/ft

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (umhos/cm)	OTHER		REMARKS
957								pump on
958		2.5	17.5	6.84	592			turbid
959		5.0	17.6	6.79	604			"
1000		10.0	18.0	6.75	609			mod turbid (pump off)
1010								sample
1012	5.08							

Suggested Method for Purging Well

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Shawna Williams

Project No. 1563.06

Date 12/17/91

Sample No. LF-14

Samplers Name KAG, TLL

Sampling Location Emeryville

Sampling Method Cent Pump, Disposable Teflon Bailer

Analyses Requested EPA 8240, TPH (diesel)), basin plan metals

Number and Types of Sample Bottles used 2 voas, 2 amber L, 2 plastic L

Method of Shipment Carrier Pick-up

GROUND WATER

Well No. LF-14

Well Diameter (in.) 2

Depth to Water, Static (ft) 5.92

Water in Well Box none

Well Depth (ft) 18.34

Height of Water Column in Well 12.42

Water Volume in Well ≈2.0 gal

SURFACE WATER (crossed out)

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

18.34
−5.92
12.42
x .16
7452
12420
1.9872

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (umhos/cm)	OTHER		REMARKS
1021								pump on
1022		2.0	17.7	6.86	644			v. turbid
1023		4.0	17.9	6.84	698			v. turbid
1024		6.0	17.9	6.81	714			turbid/pump off
1030								Sampled LF-14
1035	6.00							

Suggested Method for Purging Well

14SEPT91 ftyx

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Sherwin Williams — Project No. 1563.06

Date 12/17/91. — Sample No. ~~LF-16~~ LF-16

Samplers Name KAG, TLL

Sampling Location Emeryville

Sampling Method Cont. Pump, Disposable Teflon Bailer

Analyses Requested EPA 8240, TPH diesel, Resin Plus Metals

Number and Types of Sample Bottles used 2 vom, 2 amber L, 2 plastic L

Method of Shipment Courier Pickup

LF-60
4.70
13.90
x .16
8340
13900
2.2240

GROUND WATER

Well No. LF-~~16~~ 16

Well Diameter (in.) 2

Depth to Water, Static (ft) 4.70

Water in Well Box None

Well Depth (ft) 18.60

Height of Water Column in Well 13.90

Water Volume in Well ≈ 2.5 gal

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently?

Other

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (umhos/cm)	OTHER		REMARKS
1046								Pump on
1047		2.5	17.7	6.93	639			sl. turbid
1048		5.0	17.6	6.87	634			sl. turbid
1049		7.5	17.6	6.85	638			Sl turbid-clear/pump off
1100								Sampled LF-~~16~~ 16
1105	4.76							

Suggested Method for Purging Well

file 1563.06

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin-Williams

Project No.: 1563.06

Date: 12-17-91

Sample No.: LF-7

Samplers Name: KAG-TLL

Sampling Location: LF-7

Sampling Method: cent. pump / teflon bailer

Analyses Requested: 8240, TPH(d), basin plan metals

Number and Types of Sample Bottles used: 2 VOA, 2-1-liter amber, 2 plastic

Method of Shipment:

16.99
4.85
12.14
.16
7284
12140
1.9424

LOCATION MAP

GROUND WATER

Well No.: LF-7

Well Diameter (in.): 2 inch

Depth to Water, Static (ft): 4.85

Water in Well Box: no

Well Depth (ft): 16.99

Height of Water Column in Well: 12.14

Water Volume in Well: 2 gal

SURFACE WATER

Stream Width:

Stream Depth:

Stream Velocity:

Rained recently ?

Other

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

TIME	DEPTH TO WATER, (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (umhos/cm)	OTHER		REMARKS
1113								pump on
1114		2	20.6	6.18	2640			turbid
1115		4	20.5	6.21	1770			"
1116		6	20.2	6.22	1480			" (pump off)
1125								sample
1131	4.93							

Suggested Method for Purging Well

14SEPT91[illegible]

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin - Williams
Project No.: 1563.06
Date: 12-17 - 91
Sample No.: LF-11
Samplers Name: KAG - TLL
Sampling Location: LF-11
Sampling Method: cent. pump / teflon bailer
Analyses Requested: 8240
Number and Types of Sample Bottles used: 2 VOA
Method of Shipment:

GROUND WATER

Well No.: LF-11
Well Diameter (in.): 2 inch
Depth to Water, Static (ft): 3.78
Water in Well Box: NO
Well Depth (ft): 15.14
Height of Water Column in Well: 11.36
Water Volume in Well: ≈ 2 gal

SURFACE WATER

Stream Width:
Stream Depth:
Stream Velocity:
Rained recently?:
Other:

2-inch casing = 0.16 gal/ft
4-inch casing = 0.65 gal/ft
5-inch casing = 1.02 gal/ft
6-inch casing = 1.47 gal/ft

15.14
3.78
11.36
.16
6816
11360
1.81.76

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
1322								pump on
1323		2	18.6	6.89	1310			turbid
1324		4	18.6	6.80	1365			"
1325		6	18.6	6.78	1399			mod. turbid (pump off)
1330								sample
1335	3.80							

Suggested Method for Purging Well:

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name: Sherwin-Williams
Project No.: 1563.06
Date: 12-17-91
Sample No.: LF-8
Samplers Name: KAG-TLL
Sampling Location: LF-8
Sampling Method: cont. pump / teflon bailer
Analyses Requested: 8240, TPH (d), basin plan metals
Number and Types of Sample Bottles used: 2 VOA, 2-1-liter amber 2 plastic
Method of Shipment:

GROUND WATER		SURFACE WATER	
Well No.	LF-8	Stream Width	
Well Diameter (in.)	2 inch	Stream Depth	
Depth to Water, Static (ft)	7.14	Stream Velocity	
Water in Well Box	No	Rained recently?	
Well Depth (ft)	16.95	Other	
Height of Water Column in Well	9.81		
Water Volume in Well	≈ 1.6 gal		

2-inch casing = 0.16 gal/ft
4-inch casing = 0.65 gal/ft
5-inch casing = 1.02 gal/ft
6-inch casing = 1.47 gal/ft

LOCATION MAP

16.95
7.14
9.81
.16
58 8 6
98 1 0
15.6.96

c
9.81
.8
7848

16.95
7.85
24.80

16.95
7.85
9.10

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (umhos/cm)	OTHER		REMARKS
								pump on
1308	11.6	~~1.6~~ 1.60	15.0	7.15	842			turbid (pump off dry)
1415		3.6						pump on
1416		3.6	16.3	7.26	1162			turbid, pump off (dry)
								sample
1501	7.55							
1505								sample
1514	10.75							

Suggested Method for Purging Well

24SEPT9146.tyc

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Sherwin - Williams

Project No. 1563.06

Date 12-18-91

Sample No. LF-9
LF-9-BR

Samplers Name KAG-TLL

Sampling Location LF-9

Sampling Method Cont. pump Teflon bailer

Analyses Requested 8240, TPH(d), basin plan metals

Number and Types of Sample Bottles used 4 VOA, 2 amber, 2 plastic

Method of Shipment

15.11
5.46
9.65
.16
5790
9650
15440

GROUND WATER

Well No.

Well Diameter (in.)

Depth to Water, Static (ft) 5.46

Water in Well Box

Well Depth (ft) 15.11

Height of Water Column in Well 9.65

Water Volume in Well 2 1.5 gal

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

LOCATION MAP

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (umhos/cm)	OTHER		REMARKS
905								Pump on
906		1.5	17.8	7.10	1255			turbid
907		3.0	19.4	7.13	1349			"
908		4.5	19.2	7.05	1376			" pump off
915								bailer rinsate
920								sample
928	5.97							

Suggested Method for Purging Well

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project Name Sherwin Williams

Project No. 1563.06

Date 12-18-91

Sample No. LF-10
LF-10 - dup

Samplers Name KAG - TLL

Sampling Location LF-10

Sampling Method cent. pump

Analyses Requested 8240, TPH(d), basin plan metals

Number and Types of Sample Bottles used 4 VOA, 4 ambers, 4 plastic

Method of Shipment

15.28
4.25
11.03
.16
6618
1,030
1.7648

LOCATION MAP

GROUND WATER

Well No. LF-D

Well Diameter (in.) 2 inch

Depth to Water, Static (ft) 4.25

Water in Well Box

Well Depth (ft) 15.28

Height of Water Column in Well 11.03

Water Volume in Well ≈ 2 gal

SURFACE WATER

Stream Width

Stream Depth

Stream Velocity

Rained recently ?

Other

2-inch casing = 0.16 gal/ft

4-inch casing = 0.65 gal/ft

5-inch casing = 1.02 gal/ft

6-inch casing = 1.47 gal/ft

TIME	DEPTH TO WATER (feet)	VOLUME WITHDRAWN (gallons)	TEMP (deg. C)	pH (S.U.)	COND (mhos/cm)	OTHER		REMARKS
939								pump on
940		2	19.6	7.08	1664			turbid
941		4	14.6	7.03	1757			"
942		6	19.8	7.01	1800			" (pump off)
[illegible]								
950								sample
955								duplicate
1005	4.26							

Suggested Method for Purging Well

APPENDIX B

LABORATORY CERTIFICATES

ANAMETRIX INC
Environmental & Analytical Chemistry
1961 Concourse Drive, Suite E, San Jose, CA 95131
(408) 432-8192 • Fax (408) 432-8198

REPORT

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112189
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9112189- 1	FIELD BLANK
9112189- 2	LF-9
9112189- 3	LF-9-BR
9112189- 4	LF-10
9112189- 5	LF-10-DUP

This report consists of 19 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Sarah Schoen, Ph.D.
Laboratory Manager

12-31-91
Date

ANAMETRIX REPORT DESCRIPTION
GCMS

Organic Analysis Data Sheets (OADS)

OADS forms contain tabulated results for target compounds. The OADS are grouped by method and, within each method, organized sequentially in order of increasing Anametrix ID number.

Tentatively Identified Compounds (TICs)

TIC forms contain tabulated results for non-target compounds detected in GC/MS analyses. TICs must be requested at the time samples are submitted at Anametrix. TIC forms immediately follow the OADS form for each sample. If TICs are requested but not found, then TIC forms will not be included with the report.

Surrogate Recovery Summary (SRS)

SRS forms contain quality assurance data. An SRS form will be printed for each method, if the method requires surrogate compounds. They will list surrogate percent recoveries for all samples and any method blanks. Any surrogate recovery outside the established limits will be flagged with an "*", and the total number of surrogates outside the limits will be listed in the column labelled "Total Out".

Matrix Spike Recovery Form (MSR)

MSR forms contain quality assurance data. They summarize percent recovery and relative percent difference information for matrix spikes and matrix spike duplicates. This information is a statement of both accuracy and precision. Any percent recovery or relative percent difference outside established limits will be flagged with an "*", and the total number outside the limits will be listed at the bottom of the page. Not all reports will contain an MSR form.

Qualifiers

Anametrix uses several data qualifiers (Q) in it's report forms. These qualifiers give additional information on the compounds reported. They should help a data reviewer to verify the integrity of the analytical results. The following is a list of qualifiers and their meanings:

- U - Indicates that the compound was analyzed for, but was not detected at or above the specified reporting limit.
- B - Indicates that the compound was detected in the associated method blank.
- J - Indicates that the compound was detected at an amount below the specified reporting limit. Consequently, the amount should be considered an approximate value. Tentatively identified compounds will always have a "J" qualifier because they are not included in the instrument calibration.
- E - Indicates that the amount reported exceeded the linear range of the instrument calibration.
- D - Indicates that the compound was detected in an analysis performed at a secondary dilution.
- A - Indicates that the tentatively identified compound is a suspected aldol condensation product. This is common in EPA Method 8270 soil analyses.

Absence of a qualifier indicates that the compound was detected at a concentration at or above the specified reporting limit.

REPORTING CONVENTIONS

- Due to a size limitation in our data processing step, only the first eight (8) characters of your project ID and sample ID will be printed on the report forms. However, the report cover letter and report summary pages display up to twenty (20) characters of your project and sample IDs.
- Amounts reported are gross values, i.e., not corrected for method blank contamination.

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112189
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : GCMS
Sub-Department: GCMS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9112189- 2	LF-9	WATER	12/18/91	8240
9112189- 3	LF-9-BR	WATER	12/18/91	8240
9112189- 4	LF-10	WATER	12/18/91	8240
9112189- 5	LF-10-DUP	WATER	12/18/91	8240

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112189
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : GCMS
Sub-Department: GCMS

QA/QC SUMMARY :

- No QA/QC problems.

Department Supervisor 12-31-91 Date

Chemist 12-31-91 Date

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Sample ID : LF-9
Matrix : WATER
Date Sampled :12/18/91
Date Analyzed :12/23/91
Instrument ID : MSD1

Anametrix ID : 9112189-02
Analyst : DP
Supervisor : UM

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	9.	
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Sample ID : LF-9-BR
Matrix : WATER
Date Sampled :12/18/91
Date Analyzed :12/23/91
Instrument ID : MSD1

Anametrix ID : 9112189-03
Analyst : DP
Supervisor : UH

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Sample ID : LF-10
Matrix : WATER
Date Sampled :12/18/91
Date Analyzed :12/23/91
Instrument ID : MSD1

Anametrix ID : 9112189-04
Analyst :
Supervisor :

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID	: 1563.06	Anametrix ID	: 9112188-05
Sample ID	: LF-10-DU	Analyst	: DP
Matrix	: WATER	Supervisor	: UH
Date Sampled	:12/18/91		
Date Analyzed	:12/23/91	Dilution Factor	: 1.00
Instrument ID	: MSD1	Conc. Units	: ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID :
Sample ID : BLANK
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Analyzed :12/23/91
Instrument ID : MSD1

Anametrix ID : 1223B001
Analyst : DP
Supervisor : M

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

SURROGATE RECOVERY SUMMARY -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Matrix : LIQUID

Anametrix ID : 9112189
Analyst :DP
Supervisor :M

	SAMPLE ID	SU1	SU2	SU3	TOTAL OUT
1	BLANK	99	98	103	0
2	LF-9-BR	98	99	104	0
3	LF-9	100	95	102	0
4	LF-10	102	94	102	0
5	LF-10-DU	100	96	103	0
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

	QC LIMITS
SU1 = 1,2-Dichloroethane-d4	(75-113)
SU2 = Toluene-d8	(83-110)
SU3 = 1,4-Bromofluorobenzene	(82-114)

* Values outside of Anametrix QC limits

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112189
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9112189- 2	LF-9	WATER	12/18/91	TPHd
9112189- 4	LF-10	WATER	12/18/91	TPHd
9112189- 5	LF-10-DUP	WATER	12/18/91	TPHd

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112189
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Department Supervisor — 12.31.91 Date

Chemist — 12.31.91 Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9112189
Matrix : WATER
Date Sampled : 12/18/91
Date Extracted: 12/23/91

Project Number : 1563.06
Date Released : 12/30/91
Instrument I.D.: HP9

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)
9112189-02	LF-9	12/25/91	50	600
9112189-04	LF-10	12/25/91	50	990
9112189-05	LF-10-DUP	12/25/91	50	570
DWBL122391	METHOD BLANK	12/25/91	50	ND

Note : Reporting limit is obtained by multiplying the dilution factor times 50ug/L.
ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following sample extraction by EPA Method 3510.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Analyst 12/30/91 Date

Supervisor 12.30.91 Date

TOTAL EXTRACTABLE HYDROCARBON METHOD SPIKE REPORT
EPA METHOD 3510 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : METHOD SPIKE
Matrix : REAGENT WATER
Date Sampled : N/A
Date Extracted: 12/23/91
Date Analyzed : 12/26/91

Anametrix I.D. : SPK122391
Analyst : IS
Supervisor : CF
Date Released : 12/30/91
Instrument I.D.: HP 9

COMPOUND	SPIKE AMT. (ug/L)	MS (ug/L)	%REC MS	MSD (ug/L)	%REC MSD	RPD	%REC LIMITS
Diesel	1250	990	79%	1100	88%	11%	36-150

* Limits established by Anametrix, Inc.

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112189
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9112189- 1	FIELD BLANK	WATER	12/18/91	6010
9112189- 2	LF-9	WATER	12/18/91	6010
9112189- 4	LF-10	WATER	12/18/91	6010
9112189- 5	LF-10-DUP	WATER	12/18/91	6010
9112189- 1	FIELD BLANK	WATER	12/18/91	7060
9112189- 2	LF-9	WATER	12/18/91	7060
9112189- 4	LF-10	WATER	12/18/91	7060
9112189- 5	LF-10-DUP	WATER	12/18/91	7060
9112189- 1	FIELD BLANK	WATER	12/18/91	7421
9112189- 2	LF-9	WATER	12/18/91	7421
9112189- 4	LF-10	WATER	12/18/91	7421
9112189- 5	LF-10-DUP	WATER	12/18/91	7421
9112189- 1	FIELD BLANK	WATER	12/18/91	7470
9112189- 2	LF-9	WATER	12/18/91	7470
9112189- 4	LF-10	WATER	12/18/91	7470
9112189- 5	LF-10-DUP	WATER	12/18/91	7470
9112189- 1	FIELD BLANK	WATER	12/18/91	7521
9112189- 2	LF-9	WATER	12/18/91	7521
9112189- 4	LF-10	WATER	12/18/91	7521
9112189- 5	LF-10-DUP	WATER	12/18/91	7521
9112189- 1	FIELD BLANK	WATER	12/18/91	7740
9112189- 2	LF-9	WATER	12/18/91	7740
9112189- 4	LF-10	WATER	12/18/91	7740

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112189
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9112189- 5	LF-10-DUP	WATER	12/18/91	7740
9112189- 1	FIELD BLANK	WATER	12/18/91	7761
9112189- 2	LF-9	WATER	12/18/91	7761
9112189- 4	LF-10	WATER	12/18/91	7761
9112189- 5	LF-10-DUP	WATER	12/18/91	7761

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112189
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9112189- 1	FIELD BLANK	WATER	12/18/91	6010
9112189- 2	LF-9	WATER	12/18/91	6010
9112189- 4	LF-10	WATER	12/18/91	6010
9112189- 5	LF-10-DUP	WATER	12/18/91	6010
9112189- 1	FIELD BLANK	WATER	12/18/91	7060
9112189- 2	LF-9	WATER	12/18/91	7060
9112189- 4	LF-10	WATER	12/18/91	7060
9112189- 5	LF-10-DUP	WATER	12/18/91	7060
9112189- 1	FIELD BLANK	WATER	12/18/91	7421
9112189- 2	LF-9	WATER	12/18/91	7421
9112189- 4	LF-10	WATER	12/18/91	7421
9112189- 5	LF-10-DUP	WATER	12/18/91	7421
9112189- 1	FIELD BLANK	WATER	12/18/91	7470
9112189- 2	LF-9	WATER	12/18/91	7470
9112189- 4	LF-10	WATER	12/18/91	7470
9112189- 5	LF-10-DUP	WATER	12/18/91	7470
9112189- 1	FIELD BLANK	WATER	12/18/91	7521
9112189- 2	LF-9	WATER	12/18/91	7521
9112189- 4	LF-10	WATER	12/18/91	7521
9112189- 5	LF-10-DUP	WATER	12/18/91	7521
9112189- 1	FIELD BLANK	WATER	12/18/91	7740
9112189- 2	LF-9	WATER	12/18/91	7740
9112189- 4	LF-10	WATER	12/18/91	7740

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112189
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9112189- 5	LF-10-DUP	WATER	12/18/91	7740
9112189- 1	FIELD BLANK	WATER	12/18/91	7761
9112189- 2	LF-9	WATER	12/18/91	7761
9112189- 4	LF-10	WATER	12/18/91	7761
9112189- 5	LF-10-DUP	WATER	12/18/91	7761

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112189
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

QA/QC SUMMARY :

- Silver also was not detected by EPA method 6010, which has a reporting limit of 10 ug/L and a detection limit of 3 ug/L.

Department Supervisor 12-31-91 Date

Chemist 12/31/91 Date

ANALYSIS DATA SHEET - INDIVIDUAL METALS
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9112189
Matrix : WATER
Date Sampled : 12/18/91
Project Number: 1563.06

Date Prepared : 12/26/91
Date Analyzed : 12/27/91
Date Released : 12/31/91
Instrument I.D.: AA1/AA2/ICP1

	EPA Method#	Reporting Limit	Sample I.D.# FIELD BLANK	Sample I.D.# LF-9	Sample I.D.# BLANK		
ELEMENTS		(ug/L)	-01	-02	MB1226W		
Silver (Ag)	7761	1.0	ND	ND	ND		
Arsenic (As)	7060	10.0	ND	45.5	ND		
Cadmium (Cd)	6010	5.0	ND	ND	ND		
Total Cr	6010	10.0	ND	ND	ND		
Copper (Cu)	6010	25.0	ND	ND	ND		
Mercury (Hg)	7470	0.68	ND	ND	ND		
Nickel (Ni)	7521	5.0	ND	ND	ND		
Lead (Pb)	7421	3.0	ND	ND	ND		
Selenium (Se)	7740	5.0	ND	ND	ND		
Zinc (Zn)	6010	20.0	ND	38.5	ND		

ND : Not detected at or above the practical quantitation limit for the method.

All Metals by EPA Method 6010/7000, Test Methods for Evaluating Solid Waste, SW-846 3rd Edition November 1986.

Supervisor 12-31-91 Date

Chemist 12/31/91 Date

ANALYSIS DATA SHEET - INDIVIDUAL METALS
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9112189
Matrix : WATER
Date Sampled : 12/18/91
Project Number: 1563.06

Date Prepared : 12/26/91
Date Analyzed : 12/27/91
Date Released : 12/31/91
Instrument I.D.: AA1/AA2/ICP1

ELEMENTS	EPA Method#	Reporting Limit (ug/L)	Sample I.D.# LF-10 -04
Silver (Ag)	7761	1.0	ND
Arsenic (As)	7060	200	704
Cadmium (Cd)	6010	5.0	ND
Total Cr	6010	10.0	ND
Copper (Cu)	6010	25.0	ND
Mercury (Hg)	7470	0.68	ND
Nickel (Ni)	7521	5.0	ND
Lead (Pb)	7421	3.0	ND
Selenium (Se)	7740	5.0	ND
Zinc (Zn)	6010	20.0	27.9

ND : Not detected at or above the practical quantitation limit for the method.

All Metals by EPA Method 6010/7000, Test Methods for Evaluating Solid Waste, SW-846 3rd Edition November 1986.

Supervisor 12-31-91 Date

Chemist 12/31/91 Date

ANALYSIS DATA SHEET - INDIVIDUAL METALS
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9112189
Matrix : WATER
Date Sampled : 12/18/91
Project Number: 1563.06

Date Prepared : 12/26/91
Date Analyzed : 12/27/91
Date Released : 12/31/91
Instrument I.D.: AA1/AA2/ICP1

ELEMENTS	EPA Method#	Reporting Limit (ug/L)	Sample I.D.# LF-10-DUP -05
Silver (Ag)	7761	1.0	ND
Arsenic (As)	7060	200	549
Cadmium (Cd)	6010	5.0	ND
Total Cr	6010	10.0	ND
Copper (Cu)	6010	25.0	ND
Mercury (Hg)	7470	0.68	ND
Nickel (Ni)	7521	5.0	ND
Lead (Pb)	7421	3.0	ND
Selenium (Se)	7740	100	ND
Zinc (Zn)	6010	20.0	ND

ND : Not detected at or above the practical quantitation limit for the method.

All Metals by EPA Method 6010/7000, Test Methods for Evaluating Solid Waste, SW-846 3rd Edition November 1986.

Supervisor 12-31-91 Date

Chemist 12/31/91 Date

10/3 15 B 2000 9112189

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1563.06	Field Logbook No.:	Date: 12/18/91	Serial No.: 7457
Project Name: Sherwin Williams	Project Location: Emeryville		
Sampler (Signature): [signature]			Samplers: KAG, TLL

SAMPLES / **ANALYSES**

	SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CON-TAINERS	SAMPLE TYPE	EPA 601	EPA 624	EPA 8240	TPH (diesel)	Basin Plan Metals		HOLD	RUSH	REMARKS
1	Field Blank	12/18	0800		1	H_2O					X				
2	LF-9	↓	0920		6	↓			X	X	X				
3	LF-9-BR	↓	0915		2	↓			X						* Normal Turnaround Time
4	LF-10	↓	0950		6	↓			X	X	X				
5	LF-10-dup	↓	0955		6	↓			X	X	X				
															Results to John DeKraner

RELINQUISHED BY: (Signature) [signature]	DATE 1900	TIME 12/18/91	RECEIVED BY: (Signature) Benny S. Carrizosa	DATE 12/18/91	TIME 1900
RELINQUISHED BY: (Signature) Benny S. Carrizosa	DATE 12/18/91	TIME 1655	RECEIVED BY: (Signature) [signature]	DATE 12/18/91	TIME 1655
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

Sample Collector: LEVINE-FRICKE 1900 Powell Street, 12th Floor Emeryville, Ca 94608 (415) 652-4500	Analytical Laboratory: Anametrix

Shipping Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink) FORM NO. 86/COC/ARF

ANAMETRIX INC
Environmental & Analytical Chemistry
1961 Concourse Drive, Suite E, San Jose, CA 95131
(408) 432-8192 • Fax (408) 432-8198

REPORT

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112188
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9112188- 1	T-B
9112188- 2	LF-B4
9112188- 3	LF-15
9112188- 4	LF-14
9112188- 5	LF-16
9112188- 6	LF-7
9112188- 7	LF-8
9112188- 8	LF-11

This report consists of 25 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Sarah Schoen, Ph.D.
Laboratory Manager

12-31-91
Date

ANAMETRIX REPORT DESCRIPTION
GCMS

Organic Analysis Data Sheets (OADS)

OADS forms contain tabulated results for target compounds. The OADS are grouped by method and, within each method, organized sequentially in order of increasing Anametrix ID number.

Tentatively Identified Compounds (TICs)

TIC forms contain tabulated results for non-target compounds detected in GC/MS analyses. TICs must be requested at the time samples are submitted at Anametrix. TIC forms immediately follow the OADS form for each sample. If TICs are requested but not found, then TIC forms will not be included with the report.

Surrogate Recovery Summary (SRS)

SRS forms contain quality assurance data. An SRS form will be printed for each method, if the method requires surrogate compounds. They will list surrogate percent recoveries for all samples and any method blanks. Any surrogate recovery outside the established limits will be flagged with an "*", and the total number of surrogates outside the limits will be listed in the column labelled "Total Out".

Matrix Spike Recovery Form (MSR)

MSR forms contain quality assurance data. They summarize percent recovery and relative percent difference information for matrix spikes and matrix spike duplicates. This information is a statement of both accuracy and precision. Any percent recovery or relative percent difference outside established limits will be flagged with an "*", and the total number outside the limits will be listed at the bottom of the page. Not all reports will contain an MSR form.

Qualifiers

Anametrix uses several data qualifiers (Q) in it's report forms. These qualifiers give additional information on the compounds reported. They should help a data reviewer to verify the integrity of the analytical results. The following is a list of qualifiers and their meanings:

- U - Indicates that the compound was analyzed for, but was not detected at or above the specified reporting limit.
- B - Indicates that the compound was detected in the associated method blank.
- J - Indicates that the compound was detected at an amount below the specified reporting limit. Consequently, the amount should be considered an approximate value. Tentatively identified compounds will always have a "J" qualifier because they are not included in the instrument calibration.
- E - Indicates that the amount reported exceeded the linear range of the instrument calibration.
- D - Indicates that the compound was detected in an analysis performed at a secondary dilution.
- A - Indicates that the tentatively identified compound is a suspected aldol condensation product. This is common in EPA Method 8270 soil analyses.

Absence of a qualifier indicates that the compound was detected at a concentration at or above the specified reporting limit.

REPORTING CONVENTIONS

- Due to a size limitation in our data processing step, only the first eight (8) characters of your project ID and sample ID will be printed on the report forms. However, the report cover letter and report summary pages display up to twenty (20) characters of your project and sample IDs.
- Amounts reported are gross values, i.e., not corrected for method blank contamination.

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112188
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : GCMS
Sub-Department: GCMS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9112188- 2	LF-B4	WATER	12/17/91	8240
9112188- 3	LF-15	WATER	12/17/91	8240
9112188- 4	LF-14	WATER	12/17/91	8240
9112188- 5	LF-16	WATER	12/17/91	8240
9112188- 6	LF-7	WATER	12/17/91	8240
9112188- 7	LF-8	WATER	12/17/91	8240
9112188- 8	LF-11	WATER	12/17/91	8240

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112188
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : GCMS
Sub-Department: GCMS

QA/QC SUMMARY :

- No QA/QC problems.

Department Supervisor — Date: 12-27-91

Chemist — Date: 12.27.91

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Sample ID : LF-B4
Matrix : WATER
Date Sampled :12/17/91
Date Analyzed :12/21/91
Instrument ID : MSD1

Anametrix ID : 9112188-02
Analyst : DP
Supervisor : LM

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Sample ID : LF-15
Matrix : WATER
Date Sampled :12/17/91
Date Analyzed :12/21/91
Instrument ID : MSD1

Anametrix ID : 9112188-03
Analyst :
Supervisor :

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Sample ID : LF-14
Matrix : WATER
Date Sampled :12/17/91
Date Analyzed :12/21/91
Instrument ID : MSD1

Anametrix ID : 9112188-04
Analyst : DP
Supervisor : LH

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Sample ID : LF-16
Matrix : WATER
Date Sampled :12/17/91
Date Analyzed :12/23/91
Instrument ID : MSD1

Anametrix ID : 9112188-05
Analyst : QP
Supervisor : M

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Sample ID : LF-7
Matrix : WATER
Date Sampled :12/17/91
Date Analyzed :12/23/91
Instrument ID : MSD1

Anametrix ID : 9112188-06
Analyst : DR
Supervisor : MH

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	6.	
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	5.	
100-41-4	Ethylbenzene	5.	6.	
1330-20-7	Xylene (Total)	5.	9.	
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Sample ID : LF-8
Matrix : WATER
Date Sampled :12/17/91
Date Analyzed :12/23/91
Instrument ID : MSD1

Anametrix ID : 9112188-07
Analyst : SP
Supervisor : M

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Sample ID : LF-11
Matrix : WATER
Date Sampled :12/17/91
Date Analyzed :12/23/91
Instrument ID : MSD1

Anametrix ID : 9112188-08
Analyst : DP
Supervisor : LH

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID :
Sample ID : BLANK
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Analyzed :12/20/91
Instrument ID : MSD1

Anametrix ID : 1220B005
Analyst : OP
Supervisor : WM

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID :
Sample ID : BLANK
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Analyzed :12/23/91
Instrument ID : MSD1

Anametrix ID : 1223B001
Analyst : DP
Supervisor : UH

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

SURROGATE RECOVERY SUMMARY -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Matrix : LIQUID

Anametrix ID : 9112188
Analyst : DP
Supervisor : LM

	SAMPLE ID	SU1	SU2	SU3	TOTAL OUT
1	BLANK	84	108	112	0
2	LF-B4	96	103	103	0
3	LF-15	82	106	105	0
4	LF-14	93	105	104	0
5					
6					
7					
8					
9					
10					
11					
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23					
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25					
26					
27					
28					
29					
30					

	QC LIMITS
SU1 = 1,2-Dichloroethane-d4	(75-113)
SU2 = Toluene-d8	(83-110)
SU3 = 1,4-Bromofluorobenzene	(82-114)

* Values outside of Anametrix QC limits

SURROGATE RECOVERY SUMMARY -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Matrix : LIQUID

Anametrix ID : 9112188
Analyst : DP
Supervisor : MH

	SAMPLE ID	SU1	SU2	SU3	TOTAL OUT
1	BLANK	99	98	103	0
2	LF-16	97	101	105	0
3	LF-7	103	94	100	0
4	LF-8	97	98	103	0
5	LF-11	102	97	101	0
6					
7					
8					
9					
10					
11					
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29					
30					

	QC LIMITS
SU1 = 1,2-Dichloroethane-d4	(75-113)
SU2 = Toluene-d8	(83-110)
SU3 = 1,4-Bromofluorobenzene	(82-114)

* Values outside of Anametrix QC limits

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112188
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9112188- 2	LF-B4	WATER	12/17/91	TPHd
9112188- 3	LF-15	WATER	12/17/91	TPHd
9112188- 4	LF-14	WATER	12/17/91	TPHd
9112188- 5	LF-16	WATER	12/17/91	TPHd
9112188- 6	LF-7	WATER	12/17/91	TPHd
9112188- 7	LF-8	WATER	12/17/91	TPHd
9112188- 8	LF-11	WATER	12/17/91	TPHd

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112188
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Department Supervisor 12.30.91 Date

Chemist 12/30/91 Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9112188
Matrix : WATER
Date Sampled : 12/17/91
Date Extracted: 12/23/91

Project Number : 1563.06
Date Released : 12/30/91
Instrument I.D.: HP9

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)
9112188-02	LF-B4	12/25/91	50	ND
9112188-03	LF-15	12/25/91	50	ND
9112188-04	LF-14	12/25/91	50	86
9112188-05	LF-16	12/25/91	50	94
9112188-06	LF-7	12/25/91	50	540
9112188-07	LF-8	12/25/91	50	220
9112188-08	LF-11	12/25/91	50	410
DWBL122391	METHOD BLANK	12/25/91	50	ND

Note : Reporting limit is obtained by multiplying the dilution factor times 50ug/L.
ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following sample extraction by EPA Method 3510.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Anna Shen 12/30/91
Analyst Date

Supervisor 12.30.91
Date

TOTAL EXTRACTABLE HYDROCARBON METHOD SPIKE REPORT
EPA METHOD 3510 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : METHOD SPIKE
Matrix : REAGENT WATER
Date Sampled : N/A
Date Extracted: 12/23/91
Date Analyzed : 12/26/91

Anametrix I.D. : SPK122391
Analyst : IS
Supervisor : CF
Date Released : 12/30/91
Instrument I.D. : HP 9

COMPOUND	SPIKE AMT. (ug/L)	MS (ug/L)	%REC MS	MSD (ug/L)	%REC MSD	RPD	%REC LIMITS
Diesel	1250	990	79%	1100	88%	11%	36-150

* Limits established by Anametrix, Inc.

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112188
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9112188- 1	T-B	WATER	12/17/91	6010
9112188- 2	LF-B4	WATER	12/17/91	6010
9112188- 3	LF-15	WATER	12/17/91	6010
9112188- 4	LF-14	WATER	12/17/91	6010
9112188- 5	LF-16	WATER	12/17/91	6010
9112188- 6	LF-7	WATER	12/17/91	6010
9112188- 7	LF-8	WATER	12/17/91	6010
9112188- 8	LF-11	WATER	12/17/91	6010
9112188- 1	T-B	WATER	12/17/91	7060
9112188- 2	LF-B4	WATER	12/17/91	7060
9112188- 3	LF-15	WATER	12/17/91	7060
9112188- 4	LF-14	WATER	12/17/91	7060
9112188- 5	LF-16	WATER	12/17/91	7060
9112188- 6	LF-7	WATER	12/17/91	7060
9112188- 7	LF-8	WATER	12/17/91	7060
9112188- 8	LF-11	WATER	12/17/91	7060
9112188- 1	T-B	WATER	12/17/91	7421
9112188- 2	LF-B4	WATER	12/17/91	7421
9112188- 3	LF-15	WATER	12/17/91	7421
9112188- 4	LF-14	WATER	12/17/91	7421
9112188- 5	LF-16	WATER	12/17/91	7421
9112188- 6	LF-7	WATER	12/17/91	7421
9112188- 7	LF-8	WATER	12/17/91	7421

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112188
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9112188- 8	LF-11	WATER	12/17/91	7421
9112188- 1	T-B	WATER	12/17/91	7470
9112188- 2	LF-B4	WATER	12/17/91	7470
9112188- 3	LF-15	WATER	12/17/91	7470
9112188- 4	LF-14	WATER	12/17/91	7470
9112188- 5	LF-16	WATER	12/17/91	7470
9112188- 6	LF-7	WATER	12/17/91	7470
9112188- 7	LF-8	WATER	12/17/91	7470
9112188- 8	LF-11	WATER	12/17/91	7470
9112188- 1	T-B	WATER	12/17/91	7521
9112188- 2	LF-B4	WATER	12/17/91	7521
9112188- 3	LF-15	WATER	12/17/91	7521
9112188- 4	LF-14	WATER	12/17/91	7521
9112188- 5	LF-16	WATER	12/17/91	7521
9112188- 6	LF-7	WATER	12/17/91	7521
9112188- 7	LF-8	WATER	12/17/91	7521
9112188- 8	LF-11	WATER	12/17/91	7521
9112188- 1	T-B	WATER	12/17/91	7740
9112188- 2	LF-B4	WATER	12/17/91	7740
9112188- 3	LF-15	WATER	12/17/91	7740
9112188- 4	LF-14	WATER	12/17/91	7740
9112188- 5	LF-16	WATER	12/17/91	7740
9112188- 6	LF-7	WATER	12/17/91	7740

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112188
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9112188- 7	LF-8	WATER	12/17/91	7740
9112188- 8	LF-11	WATER	12/17/91	7740
9112188- 1	T-B	WATER	12/17/91	7761
9112188- 2	LF-B4	WATER	12/17/91	7761
9112188- 3	LF-15	WATER	12/17/91	7761
9112188- 4	LF-14	WATER	12/17/91	7761
9112188- 5	LF-16	WATER	12/17/91	7761
9112188- 6	LF-7	WATER	12/17/91	7761
9112188- 7	LF-8	WATER	12/17/91	7761
9112188- 8	LF-11	WATER	12/17/91	7761

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112188
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

QA/QC SUMMARY :

- Spike recoveries for silver by EPA Method 7761 were outside of Anametrix control limits, which is a common limitation of the preparation method for graphite furnace atomic absorption. Silver was also not detected by EPA method 6010, which has a reporting limit of 10 ug/L and a detection limit of 3 ug/L.

Department Supervisor 12-31-91 Date

Chemist 12/31/91 Date

ANALYSIS DATA SHEET - INDIVIDUAL METALS
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9112188
Matrix : WATER
Date Sampled : 12/17/91
Project Number: 1563.06

Date Prepared : 12/23/91
Date Analyzed : 12/26/91
Date Released : 12/30/91
Instrument I.D.: AA1/AA2/ICP1

	EPA Method#	Reporting Limit	Sample I.D.# T-B	Sample I.D.# LF-B4	Sample I.D.# LF-15	Sample I.D.# LF-14	Sample I.D.# LF-16
ELEMENTS		(ug/L)	-01	-02	-03	-04	-05
Silver (Ag)	7761	1.0	ND	ND	ND	ND	ND
Arsenic (As)	7060	10.0	ND	ND	ND	104	ND
Cadmium (Cd)	6010	5.0	ND	ND	ND	ND	ND
Total Cr	6010	10.0	ND	ND	ND	ND	ND
Copper (Cu)	6010	25.0	ND	ND	ND	ND	ND
Mercury (Hg)	7470	0.68	ND	ND	ND	ND	ND
Nickel (Ni)	7521	5.0	ND	ND	ND	ND	ND
Lead (Pb)	7421	3.0	ND	ND	ND	ND	ND
Selenium (Se)	7740	5.0	ND	ND	ND	ND	ND
Zinc (Zn)	6010	20.0	ND	29.1	26.2	ND	24.5

ND : Not detected at or above the practical quantitation limit for the method.

All Metals by EPA Method 6010/7000, Test Methods for Evaluating Solid Waste, SW-846 3rd Edition November 1986.

Supervisor 12/31/91 Date

Chemist 12/31/91 Date

ANALYSIS DATA SHEET - INDIVIDUAL METALS
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9112188
Matrix : WATER
Date Sampled : 12/17/91
Project Number: 1563.06

Date Prepared : 12/23/91
Date Analyzed : 12/26/91
Date Released : 12/30/91
Instrument I.D.: AA1/AA2/ICP1

ELEMENTS	EPA Method#	Reporting Limit (ug/L)	Sample I.D.# LF-7 -06	Sample I.D.# LF-8 -07	Sample I.D.# LF-11 -08	Sample I.D.# BLANK MB1223W
Silver (Ag)	7761	1.0	ND	ND	ND	ND
Arsenic (As)	7060	10.0	ND	15.6	11.2	ND
Cadmium (Cd)	6010	5.0	ND	ND	ND	ND
Total Cr	6010	10.0	ND	ND	ND	ND
Copper (Cu)	6010	25.0	ND	ND	ND	ND
Mercury (Hg)	7470	0.68	ND	ND	ND	ND
Nickel (Ni)	7521	5.0	ND	ND	ND	ND
Lead (Pb)	7421	3.0	ND	ND	ND	ND
Selenium (Se)	7740	5.0	ND	ND	ND	ND
Zinc (Zn)	6010	20.0	ND	ND	ND	ND

ND : Not detected at or above the practical quantitation limit for the method.

All Metals by EPA Method 6010/7000, Test Methods for Evaluating Solid Waste, SW-846 3rd Edition November 1986.

Supervisor 12/31/91 Date

Chemist 12/31/91 Date

ANAMETRIX, INC.
1961 CONCOURSE DRIVE, SUITE E
SAN JOSE, CA 95131, (408) 432-8192

INDIVIDUAL METALS MATRIX SPIKE REPORT

Spike I.D. : 9112188-01MS,MD
Date Prepared: 12/23/91
Date Analyzed: 12/26/91
Assoc. WO # : 9112188

Inst. ID: AA1/ICP1
Date : 12/30/91
Matrix : WATER
Units : ug/L

ELEMENTS	METHOD	SPIKE AMOUNT	SAMPLE CONC.*	M.S. CONC.	% REC.	M.S.D. CONC.	% REC.	R P D
Cd	6010	50.0	0.0	51.0	102	52.3	105	2.5
TTl Cr	6010	200	0.0	228	114	231	116	1.3
Cu	6010	250	0.0	253	101	256	102	1.2
Hg	7470	1.36	0.0	1.15	84.6	1.07	78.7	7.2
Zn	6010	500	0.0	517	103	528	106	2.1

COMMENT: Quality control limits for percent recovery are 75-125% and 25% for RPD.

* : Sample concentration of 0.0 indicates that the analyte in the sample was below detection limit for the method. 0.0 is entered for calculations of the percent recovery and RPD only.

Mammy Nguyen 12/31/91
Supervisor Date

Mong Kame / 12/31/91
Chemist Date

ANAMETRIX, INC.
1961 CONCOURSE DRIVE, SUITE E
SAN JOSE, CA 95131, (408) 432-8192

INDIVIDUAL METALS MATRIX SPIKE REPORT

Spike I.D. : 9112187-12MS,MD
Date Prepared: 12/23/91
Date Analyzed: 12/26/91
Assoc. WO # : 9112188

Inst. ID: AA2
Date : 12/30/91
Matrix : WATER
Units : ug/L

ELEMENTS	METHOD	SPIKE AMOUNT	SAMPLE CONC.*	M.S. CONC.	% REC.	M.S.D. CONC.	% REC.	R P D
Ag	7761	1000	0.85	68.0	6.7	66.0	6.5	3.0
As	7060	2000	0.0	2140	107	2170	109	1.4
Ni	7521	500	0.0	610	122	579	116	5.2
Pb	7421	500	5.3	516	102	531	105	2.9
Se	7740	2000	0.0	1940	97.0	1990	100	2.5

COMMENT: Quality control limits for percent recovery are 75-125% and 25% for RPD.

* : Sample concentration of 0.0 indicates that the analyte in the sample was below detection limit for the method. 0.0 is entered for calculations of the percent recovery and RPD only.

Manny Nguyen 12/31/91
Supervisor Date

Mona Kamel 12/31/91
Chemist Date

10/2 IT 15 2400 9112188

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1563.06	Field Logbook No.:	Date: 12/18/91	Serial No.: 10556
Project Name: Sherwin Williams	Project Location: Emeryville		
Sampler (Signature) :			Samplers: KAG, TLL

	SAMPLES						ANALYSES								
	SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	EPA 8240	TPH (diesel)	Basin Plan Metals		HOLD	RUSH	REMARKS
1	Trip Blank	12-17-91	800		1	H_2O					X				No bubbles obs
2	LF-B4		935		6				X	X	X				
3	LF-15		1010												
4	LF-14		1030												
5	LF-16		1100												
6	LF-7		1125												
7	LF-8		1505												
8	LF-11		1330												Results to: John DeReamer

RELINQUISHED BY: (Signature) Kenton Lee	DATE 12-18-91	TIME 1400	RECEIVED BY: (Signature) Bonny S. Cunyus	DATE 12/18/91	TIME 1700
RELINQUISHED BY: (Signature) Bonny S. Cunyus	DATE 12/18/91	TIME 1655	RECEIVED BY: (Signature)	DATE 12891	TIME 1655
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

Sample Collector:
LEVINE-FRICKE
1900 Powell Street, 12th Floor
Emeryville, Ca 94608
(415) 652-4500

Analytical Laboratory: Anametrix

Shipping Copy (White) Lab Copy (Green) File Copy (Yellow) Field Copy (Pink) FORM NO. 86/COC/ARF

ANAMETRIX INC
Environmental & Analytical Chemistry
1961 Concourse Drive, Suite E, San Jose, CA 95131
(408) 432-8192 • Fax (408) 432-8198

REPORT

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112190
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9112190- 1	TRIP BLANK
9112190- 2	LF-12
9112190- 3	LF-13
9112190- 4	LF-B1
9112190- 5	LF-B2
9112190- 6	LF-B3

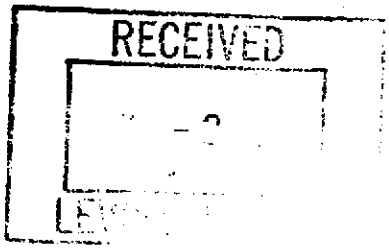
This report consists of 25 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Sarah Schoen, Ph.D.
Laboratory Manager

12-31-91
Date



ANAMETRIX REPORT DESCRIPTION
GCMS

Organic Analysis Data Sheets (OADS)

OADS forms contain tabulated results for target compounds. The OADS are grouped by method and, within each method, organized sequentially in order of increasing Anametrix ID number.

Tentatively Identified Compounds (TICs)

TIC forms contain tabulated results for non-target compounds detected in GC/MS analyses. TICs must be requested at the time samples are submitted at Anametrix. TIC forms immediately follow the OADS form for each sample. If TICs are requested but not found, then TIC forms will not be included with the report.

Surrogate Recovery Summary (SRS)

SRS forms contain quality assurance data. An SRS form will be printed for each method, if the method requires surrogate compounds. They will list surrogate percent recoveries for all samples and any method blanks. Any surrogate recovery outside the established limits will be flagged with an "*", and the total number of surrogates outside the limits will be listed in the column labelled "Total Out".

Matrix Spike Recovery Form (MSR)

MSR forms contain quality assurance data. They summarize percent recovery and relative percent difference information for matrix spikes and matrix spike duplicates. This information is a statement of both accuracy and precision. Any percent recovery or relative percent difference outside established limits will be flagged with an "*", and the total number outside the limits will be listed at the bottom of the page. Not all reports will contain an MSR form.

Qualifiers

Anametrix uses several data qualifiers (Q) in it's report forms. These qualifiers give additional information on the compounds reported. They should help a data reviewer to verify the integrity of the analytical results. The following is a list of qualifiers and their meanings:

- U - Indicates that the compound was analyzed for, but was not detected at or above the specified reporting limit.
- B - Indicates that the compound was detected in the associated method blank.
- J - Indicates that the compound was detected at an amount below the specified reporting limit. Consequently, the amount should be considered an approximate value. Tentatively identified compounds will always have a "J" qualifier because they are not included in the instrument calibration.
- E - Indicates that the amount reported exceeded the linear range of the instrument calibration.
- D - Indicates that the compound was detected in an analysis performed at a secondary dilution.
- A - Indicates that the tentatively identified compound is a suspected aldol condensation product. This is common in EPA Method 8270 soil analyses.

Absence of a qualifier indicates that the compound was detected at a concentration at or above the specified reporting limit.

REPORTING CONVENTIONS

- Due to a size limitation in our data processing step, only the first eight (8) characters of your project ID and sample ID will be printed on the report forms. However, the report cover letter and report summary pages display up to twenty (20) characters of your project and sample IDs.
- Amounts reported are gross values, i.e., not corrected for method blank contamination.

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112190
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : GCMS
Sub-Department: GCMS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9112190- 2	LF-12	WATER	12/16/91	8240
9112190- 3	LF-13	WATER	12/16/91	8240
9112190- 4	LF-B1	WATER	12/16/91	8240
9112190- 5	LF-B2	WATER	12/16/91	8240
9112190- 6	LF-B3	WATER	12/16/91	8240

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112190
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : GCMS
Sub-Department: GCMS

QA/QC SUMMARY :

- 4-Methyl-2-pentanone relative percent difference is outside established limits in the EPA Method 8240 matrix spike and matrix spike duplicate analysis of sample LF-12.

Department Supervisor 12/30/91 Date

Chemist 12.30.91 Date

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Sample ID : LF-12
Matrix : WATER
Date Sampled :12/16/91
Date Analyzed :12/23/91
Instrument ID : MSD1

Anametrix ID : 9112190-02
Analyst : DP
Supervisor : WH

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Sample ID : LF-13
Matrix : WATER
Date Sampled :12/16/91
Date Analyzed :12/23/91
Instrument ID : MSD1

Anametrix ID : 9112190-03
Analyst : DP
Supervisor : JH

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	18.	
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Sample ID : LF-B1
Matrix : WATER
Date Sampled :12/16/91
Date Analyzed :12/23/91
Instrument ID : MSD1

Anametrix ID : 9112190-04
Analyst : pp
Supervisor : WH

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	160.	
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Sample ID : LF-B2
Matrix : WATER
Date Sampled :12/16/91
Date Analyzed :12/24/91
Instrument ID : MSD1

Anametrix ID : 9112190-05
Analyst : DP
Supervisor : UH

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Sample ID : LF-B3
Matrix : WATER
Date Sampled :12/16/91
Date Analyzed :12/27/91
Instrument ID : MSD1

Anametrix ID : 9112190-06
Analyst : SP
Supervisor : VM

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	26.	
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	87.	
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID :
Sample ID : BLANK
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Analyzed :12/23/91
Instrument ID : MSD1

Anametrix ID : 1223B001
Analyst : DP
Supervisor : MH

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID :
Sample ID : BLANK
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Analyzed :12/23/91
Instrument ID : MSD1

Anametrix ID : 1223B005
Analyst :
Supervisor :

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID :
Sample ID : BLANK
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Analyzed :12/27/91
Instrument ID : MSD1

Anametrix ID : 1227B001
Analyst : DF
Supervisor : [illegible]

Dilution Factor : 1.00
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
74-87-3	Chloromethane	10.	ND	U
75-01-4	Vinyl chloride	10.	ND	U
74-83-9	Bromomethane	10.	ND	U
75-00-3	Chloroethane	10.	ND	U
75-69-4	Trichlorofluoromethane	5.	ND	U
75-35-4	1,1-Dichloroethene	5.	ND	U
76-13-1	Trichlorotrifluoroethane	5.	ND	U
67-64-1	Acetone	20.	ND	U
75-15-0	Carbon disulfide	5.	ND	U
75-09-2	Methylene chloride	5.	ND	U
156-60-5	Trans-1,2-dichloroethene	5.	ND	U
75-34-3	1,1-Dichloroethane	5.	ND	U
156-59-2	Cis-1,2-dichloroethene	5.	ND	U
78-93-3	2-Butanone	20.	ND	U
67-66-3	Chloroform	5.	ND	U
71-55-6	1,1,1-Trichloroethane	5.	ND	U
56-23-5	Carbon tetrachloride	5.	ND	U
108-05-4	Vinyl acetate	10.	ND	U
71-43-2	Benzene	5.	ND	U
107-06-2	1,2-Dichloroethane	5.	ND	U
79-01-6	Trichloroethene	5.	ND	U
78-87-5	1,2-Dichloropropane	5.	ND	U
75-27-4	Bromodichloromethane	5.	ND	U
110-75-8	2-Chloroethylvinyl ether	5.	ND	U
10061-01-5	Cis-1,3-dichloropropene	5.	ND	U
108-10-1	4-Methyl-2-pentanone	10.	ND	U
108-88-3	Toluene	5.	ND	U
10061-02-6	Trans-1,3-dichloropropene	5.	ND	U
79-00-5	1,1,2-Trichloroethane	5.	ND	U
127-18-4	Tetrachloroethene	5.	ND	U
591-78-6	2-Hexanone	10.	ND	U
124-48-1	Dibromochloromethane	5.	ND	U
108-90-7	Chlorobenzene	5.	ND	U
100-41-4	Ethylbenzene	5.	ND	U
1330-20-7	Xylene (Total)	5.	ND	U
100-42-5	Styrene	5.	ND	U
75-25-2	Bromoform	5.	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	ND	U
541-73-1	1,3-Dichlorobenzene	5.	ND	U
106-46-7	1,4-Dichlorobenzene	5.	ND	U
95-50-1	1,2-Dichlorobenzene	5.	ND	U

SURROGATE RECOVERY SUMMARY -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Matrix : LIQUID

Anametrix ID : 9112190
Analyst :DF
Supervisor :[illegible]

	SAMPLE ID	SU1	SU2	SU3	TOTAL OUT
1	BLANK	99	98	103	0
2	LF-12	97	98	104	0
3	LF-13	101	98	103	0
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

	QC LIMITS
SU1 = 1,2-Dichloroethane-d4	(75-113)
SU2 = Toluene-d8	(83-110)
SU3 = 1,4-Bromofluorobenzene	(82-114)

* Values outside of Anametrix QC limits

SURROGATE RECOVERY SUMMARY -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Matrix : LIQUID

Anametrix ID : 9112190
Analyst : DP
Supervisor : [illegible]

	SAMPLE ID	SU1	SU2	SU3	TOTAL OUT
1	BLANK	98	93	103	0
2	LF-B1	95	94	102	0
3	LF-B2	97	95	102	0
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

	QC LIMITS
SU1 = 1,2-Dichloroethane-d4	(75-113)
SU2 = Toluene-d8	(83-110)
SU3 = 1,4-Bromofluorobenzene	(82-114)

* Values outside of Anametrix QC limits

SURROGATE RECOVERY SUMMARY -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Matrix : LIQUID

Anametrix ID : 9112190
Analyst :
Supervisor :

	SAMPLE ID	SU1	SU2	SU3	TOTAL OUT
1	BLANK	96	100	104	0
2	LF-B3	98	104	107	0
3	LF-12MS	99	104	101	0
4	LF-12MSD	97	104	103	0
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

	QC LIMITS
SU1 = 1,2-Dichloroethane-d4	(75-113)
SU2 = Toluene-d8	(83-110)
SU3 = 1,4-Bromofluorobenzene	(82-114)

* Values outside of Anametrix QC limits

MATRIX SPIKE RECOVERY FORM -- EPA METHOD 624/8240
ANAMETRIX, INC. (408)432-8192

Project ID : 1563.06
Sample ID : LF-12
Matrix : WATER
Date Sampled :12/16/91
Date Analyzed :12/27/91
Instrument ID : MSD1

Anametrix ID : 9112190-02
Analyst :
Supervisor :

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	%REC LIMITS
1,1-Dichloroethene	50.0	.0	55.2	110	48-148
Trichlorotrifluoroethan	50.0	.0	60.1	120	40-134
Methylene chloride	50.0	.0	50.8	102	64-162
Chloroform	50.0	.0	50.1	100	64-122
1,1,1-Trichloroethane	50.0	.0	49.4	99	54-122
Benzene	50.0	.0	52.7	105	52-136
1,2-Dichloroethane	50.0	.0	47.0	94	68-116
Trichloroethene	50.0	.0	51.9	104	68-124
4-Methyl-2-pentanone	50.0	.0	52.2	104	56-152
Toluene	50.0	.0	51.0	102	66-124
Tetrachloroethene	50.0	.0	49.8	100	62-134
Chlorobenzene	50.0	.0	46.7	93	74-124
1,2-Dichlorobenzene	50.0	.0	58.1	116	74-140

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	RPD LIMITS	%REC LIMITS
1,1-Dichloroethene	50.0	59.7	119	8	25	48-148
Trichlorotrifluoroethan	50.0	66.2	132	10	25	40-134
Methylene chloride	50.0	55.5	111	9	25	64-162
Chloroform	50.0	53.4	107	6	25	64-122
1,1,1-Trichloroethane	50.0	53.8	108	9	25	54-122
Benzene	50.0	59.6	119	12	25	52-136
1,2-Dichloroethane	50.0	54.4	109	15	25	68-116
Trichloroethene	50.0	58.1	116	11	25	68-124
4-Methyl-2-pentanone	50.0	67.7	135	26 *	25	56-152
Toluene	50.0	59.1	118	15	25	66-124
Tetrachloroethene	50.0	58.2	116	16	25	62-134
Chlorobenzene	50.0	56.6	113	19	25	74-124
1,2-Dichlorobenzene	50.0	68.3	137	16	25	74-140

* Value is outside of Anametrix QC limits

RPD: 1 out of 13 outside limits
Spike Recovery: 0 out of 26 outside limits

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112190
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9112190- 2	LF-12	WATER	12/16/91	TPHd
9112190- 3	LF-13	WATER	12/16/91	TPHd
9112190- 4	LF-B1	WATER	12/16/91	TPHd
9112190- 5	LF-B2	WATER	12/16/91	TPHd
9112190- 6	LF-B3	WATER	12/16/91	TPHd

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112190
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Department Supervisor 12.30.91 Date

Chemist 12.30.91 Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9112190
Matrix : WATER
Date Sampled : 12/16/91
Date Extracted: 12/23/91

Project Number : 1563.06
Date Released : 12/30/91
Instrument I.D.: HP9

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)
9112190-02	LF-12	12/25/91	50	ND
9112190-03	LF-13	12/25/91	50	ND
9112190-04	LF-B1	12/25/91	50	ND
9112190-05	LF-B2	12/25/91	50	ND
9112190-06	LF-B3	12/25/91	50	ND
DWBL122391	METHOD BLANK	12/25/91	50	ND

Note : Reporting limit is obtained by multiplying the dilution factor times 50ug/L.
ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following sample extraction by EPA Method 3510.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Laura Shea 12/30/91
Analyst Date

Supervisor 12.30.91
Date

TOTAL EXTRACTABLE HYDROCARBON METHOD SPIKE REPORT
EPA METHOD 3510 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : METHOD SPIKE
Matrix : REAGENT WATER
Date Sampled : N/A
Date Extracted: 12/23/91
Date Analyzed : 12/26/91

Anametrix I.D. : SPK122391
Analyst : IS
Supervisor : C.F.
Date Released : 12/30/91
Instrument I.D.: HP 9

COMPOUND	SPIKE AMT. (ug/L)	MS (ug/L)	%REC MS	MSD (ug/L)	%REC MSD	RPD	%REC LIMITS
Diesel	1250	990	79%	1100	88%	11%	36-150

* Limits established by Anametrix, Inc.

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112190
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9112190- 1	TRIP BLANK	WATER	12/16/91	6010
9112190- 2	LF-12	WATER	12/16/91	6010
9112190- 3	LF-13	WATER	12/16/91	6010
9112190- 4	LF-B1	WATER	12/16/91	6010
9112190- 5	LF-B2	WATER	12/16/91	6010
9112190- 6	LF-B3	WATER	12/16/91	6010
9112190- 1	TRIP BLANK	WATER	12/16/91	7060
9112190- 2	LF-12	WATER	12/16/91	7060
9112190- 3	LF-13	WATER	12/16/91	7060
9112190- 4	LF-B1	WATER	12/16/91	7060
9112190- 5	LF-B2	WATER	12/16/91	7060
9112190- 6	LF-B3	WATER	12/16/91	7060
9112190- 1	TRIP BLANK	WATER	12/16/91	7421
9112190- 2	LF-12	WATER	12/16/91	7421
9112190- 3	LF-13	WATER	12/16/91	7421
9112190- 4	LF-B1	WATER	12/16/91	7421
9112190- 5	LF-B2	WATER	12/16/91	7421
9112190- 6	LF-B3	WATER	12/16/91	7421
9112190- 1	TRIP BLANK	WATER	12/16/91	7470
9112190- 2	LF-12	WATER	12/16/91	7470
9112190- 3	LF-13	WATER	12/16/91	7470
9112190- 4	LF-B1	WATER	12/16/91	7470
9112190- 5	LF-B2	WATER	12/16/91	7470

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112190
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9112190- 6	LF-B3	WATER	12/16/91	7470
9112190- 1	TRIP BLANK	WATER	12/16/91	7521
9112190- 2	LF-12	WATER	12/16/91	7521
9112190- 3	LF-13	WATER	12/16/91	7521
9112190- 4	LF-B1	WATER	12/16/91	7521
9112190- 5	LF-B2	WATER	12/16/91	7521
9112190- 6	LF-B3	WATER	12/16/91	7521
9112190- 1	TRIP BLANK	WATER	12/16/91	7740
9112190- 2	LF-12	WATER	12/16/91	7740
9112190- 3	LF-13	WATER	12/16/91	7740
9112190- 4	LF-B1	WATER	12/16/91	7740
9112190- 5	LF-B2	WATER	12/16/91	7740
9112190- 6	LF-B3	WATER	12/16/91	7740
9112190- 1	TRIP BLANK	WATER	12/16/91	7761
9112190- 2	LF-12	WATER	12/16/91	7761
9112190- 3	LF-13	WATER	12/16/91	7761
9112190- 4	LF-B1	WATER	12/16/91	7761
9112190- 5	LF-B2	WATER	12/16/91	7761
9112190- 6	LF-B3	WATER	12/16/91	7761

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112190
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9112190- 1	TRIP BLANK	WATER	12/16/91	6010
9112190- 2	LF-12	WATER	12/16/91	6010
9112190- 3	LF-13	WATER	12/16/91	6010
9112190- 4	LF-B1	WATER	12/16/91	6010
9112190- 5	LF-B2	WATER	12/16/91	6010
9112190- 6	LF-B3	WATER	12/16/91	6010
9112190- 1	TRIP BLANK	WATER	12/16/91	7060
9112190- 2	LF-12	WATER	12/16/91	7060
9112190- 3	LF-13	WATER	12/16/91	7060
9112190- 4	LF-B1	WATER	12/16/91	7060
9112190- 5	LF-B2	WATER	12/16/91	7060
9112190- 6	LF-B3	WATER	12/16/91	7060
9112190- 1	TRIP BLANK	WATER	12/16/91	7421
9112190- 2	LF-12	WATER	12/16/91	7421
9112190- 3	LF-13	WATER	12/16/91	7421
9112190- 4	LF-B1	WATER	12/16/91	7421
9112190- 5	LF-B2	WATER	12/16/91	7421
9112190- 6	LF-B3	WATER	12/16/91	7421
9112190- 1	TRIP BLANK	WATER	12/16/91	7470
9112190- 2	LF-12	WATER	12/16/91	7470
9112190- 3	LF-13	WATER	12/16/91	7470
9112190- 4	LF-B1	WATER	12/16/91	7470
9112190- 5	LF-B2	WATER	12/16/91	7470

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112190
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9112190- 6	LF-B3	WATER	12/16/91	7470
9112190- 1	TRIP BLANK	WATER	12/16/91	7521
9112190- 2	LF-12	WATER	12/16/91	7521
9112190- 3	LF-13	WATER	12/16/91	7521
9112190- 4	LF-B1	WATER	12/16/91	7521
9112190- 5	LF-B2	WATER	12/16/91	7521
9112190- 6	LF-B3	WATER	12/16/91	7521
9112190- 1	TRIP BLANK	WATER	12/16/91	7740
9112190- 2	LF-12	WATER	12/16/91	7740
9112190- 3	LF-13	WATER	12/16/91	7740
9112190- 4	LF-B1	WATER	12/16/91	7740
9112190- 5	LF-B2	WATER	12/16/91	7740
9112190- 6	LF-B3	WATER	12/16/91	7740
9112190- 1	TRIP BLANK	WATER	12/16/91	7761
9112190- 2	LF-12	WATER	12/16/91	7761
9112190- 3	LF-13	WATER	12/16/91	7761
9112190- 4	LF-B1	WATER	12/16/91	7761
9112190- 5	LF-B2	WATER	12/16/91	7761
9112190- 6	LF-B3	WATER	12/16/91	7761

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. JOHN DEREAMER
LEVINE-FRICKE
1900 POWELL STREET 12TH FLOOR
EMERYVILLE, CA 94608

Workorder # : 9112190
Date Received : 12/18/91
Project ID : 1563.06
Purchase Order: N/A
Department : METALS
Sub-Department: METALS

QA/QC SUMMARY :

- Spike recoveries for silver by EPA Method 7761 were outside of Anametrix control limits, which is a common limitation of the preparation method for graphite furnace atomic absorption. Silver was also not detected by EPA method 6010, which has a reporting limit of 10 ug/L and a detection limit of 3 ug/L.

Department Supervisor 12/31/91 Date

Chemist 12/31/91 Date

ANALYSIS DATA SHEET - INDIVIDUAL METALS
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9112190
Matrix : WATER
Date Sampled : 12/16/91
Project Number: 1563.06

Date Prepared : 12/26/91
Date Analyzed : 12/27/91
Date Released : 12/31/91
Instrument I.D.: AA1/AA2/ICP1

	EPA Method#	Reporting Limit	Sample I.D.# TRIP BLANK	Sample I.D.# LF-12	Sample I.D.# LF-13	Sample I.D.# LF-B1	Sample I.D.# LF-B2
ELEMENTS		(ug/L)	-01	-02	-03	-04	-05
Silver (Ag)	7761	1.0	ND	ND	ND	ND	ND
Arsenic (As)	7060	10.0	ND	ND	ND	ND	ND
Cadmium (Cd)	6010	5.0	ND	ND	ND	ND	ND
Total Cr	6010	10.0	ND	ND	ND	ND	ND
Copper (Cu)	6010	25.0	ND	ND	ND	ND	ND
Mercury (Hg)	7470	0.68	ND	ND	ND	ND	ND
Nickel (Ni)	7521	5.0	ND	ND	ND	ND	ND
Lead (Pb)	7421	3.0	ND	ND	ND	ND	ND
Selenium (Se)	7740	5.0	ND	ND	ND	ND	ND
Zinc (Zn)	6010	20.0	ND	23.8	ND	ND	ND

ND : Not detected at or above the practical quantitation limit for the method.

All Metals by EPA Method 6010/7000, Test Methods for Evaluating Solid Waste, SW-846 3rd Edition November 1986.

Supervisor 12-31-91 Date

Chemist 12/31/91 Date

ANALYSIS DATA SHEET - INDIVIDUAL METALS
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9112190
Matrix : WATER
Date Sampled : 12/17/91
Project Number: 1563.06

Date Prepared : 12/26/91
Date Analyzed : 12/27/91
Date Released : 12/31/91
Instrument I.D.: AA1/AA2/ICP1

ELEMENTS	EPA Method#	Reporting Limit (ug/L)	Sample I.D.# LF-B3 -06	Sample I.D.# BLANK MB1226W
Silver (Ag)	7761	1.0	ND	ND
Arsenic (As)	7060	10.0	ND	ND
Cadmium (Cd)	6010	5.0	ND	ND
Total Cr	6010	10.0	ND	ND
Copper (Cu)	6010	25.0	ND	ND
Mercury (Hg)	7470	0.68	ND	ND
Nickel (Ni)	7521	5.0	16.0	ND
Lead (Pb)	7421	3.0	ND	ND
Selenium (Se)	7740	5.0	ND	ND
Zinc (Zn)	6010	20.0	ND	ND

ND : Not detected at or above the practical quantitation limit for the method.

All Metals by EPA Method 6010/7000, Test Methods for Evaluating Solid Waste, SW-846 3rd Edition November 1986.

Supervisor 12-31-91 Date

Chemist 12/31/91 Date

ANAMETRIX, INC.
1961 CONCOURSE DRIVE, SUITE E
SAN JOSE, CA 95131, (408) 432-8192

INDIVIDUAL METALS MATRIX SPIKE REPORT

Spike I.D. : 9112190-04MS,MD
Date Prepared: 12/26/91
Date Analyzed: 12/27/91
Assoc. WO # : 9112190

Inst. ID: AA1/AA2/ICP1
Date : 12/31/91
Matrix : WATER
Units : ug/L

ELEMENTS	METHOD	SPIKE AMOUNT	SAMPLE CONC.*	M.S. CONC.	% REC.	M.S.D. CONC.	% REC.	R P D
Ag	7761	1000	0.0	44.0	4.4	39.0	3.9	12.0
As	7060	2000	0.0	2160	108	2190	110	1.4
Cd	6010	50.0	0.0	50.4	101	49.5	99.0	1.8
TTl Cr	6010	200	0.0	222	111	218	109	1.8
Cu	6010	250	0.0	290	116	284	114	2.1
Hg	7470	1.36	0.0	1.23	90.3	1.10	80.9	11.0
Ni	7521	500	0.0	541	108	545	109	0.7
Pb	7421	500	6.1	558	110	592	117	6.0
Se	7740	2000	0.0	2120	106	2060	103	2.9
Zn	6010	500	0.0	519	104	514	103	1.0

COMMENT: Quality control limits for percent recovery are 75-125% and 25% for RPD.

* : Sample concentration of 0.0 indicates that the analyte in the sample was below detection limit for the method. 0.0 is entered for calculations of the percent recovery and RPD only.

Supervisor 12/31/91 Date

Chemist 12/31/91 Date

(15) (103) 1000 9112190

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

Project No.: 1563.06	Field Logbook No.:	Date: 12/17/91	Serial No.: 7544
Project Name: Sherwin Williams	Project Location: Emeryville		
Sampler (Signature): Kim Taylor			Samplers: KAG, TLL

	SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	EPA 601	EPA 624	EPA 8240	TPH (diesel)	Benzene, Tol, Xylenes	HOLD	RUSH	REMARKS
1	TRIP BLANK	12/16	0800		1	H_2O					X			
2	LF-12	↓	1135		6	↓			X	X	X			* Normal Turnaround Time
3	LF-13		1205		6				X	X	X			
4	LF-B1		1340		6				X	X	X			
5	LF-B2		1415		6				X	X	X			
6	LF-B3	↓	1445		6	↓			X	X	X		←	Sample label: LF-3B
														No bubbles, cold
														Results to John DeLaunis

RELINQUISHED BY: (Signature) Matthew Cloud	DATE 12/18/91	TIME 1355	RECEIVED BY: (Signature) Benny L. Carrizosa	DATE 12/18/91	TIME 1355
RELINQUISHED BY: (Signature) Benny L. Carrizosa	DATE 12/18/91	TIME 1655	RECEIVED BY: (Signature)	DATE 121891	TIME 1655
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

Sample Collector:
LEVINE-FRICKE
1900 Powell Street, 12th Floor
Emeryville, Ca 94608
(415) 652-4500

Analytical Laboratory: Anametrix

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APPENDIX C

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) REVIEW OF GROUND-WATER QUALITY RESULTS

APPENDIX C

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) REVIEW OF GROUND-WATER QUALITY RESULTS

Water-quality analyses were performed by Anametrix Laboratory of San Jose, California, using EPA Method 8240 (VOCs), TPHd using EPA Extraction Method 3510, and EPA 200/6000/7000 Series Methods (Basin Plan metals). A duplicate sample for analysis with the three methods was collected from well LF-10. A bailer rinsate blank was prepared in the field by pouring nitrogen-purged deionized water into sampling bailers before sampling well LF-9. This bailer rinsate sample was analyzed using EPA Method 8240. Two laboratory prepared trip blanks were prepared and sent to the field in the same batch of containers used for ground-water sample shipment. These trip blanks were submitted to the laboratory and analyzed for Basin Plan metals and/or arsenic.

Data precision of analytical results for duplicate samples is assessed by the relative percent difference (RPD) parameter, which is defined as the absolute value of the difference between two values divided by their arithmetic mean. Results close to the analytical detection limit are generally subject to variability, and as such, the RPD may not be an appropriate parameter to evaluate in those cases. RPD values of the duplicate sample for metal analyses indicated generally good data precision (RPD = 24.7 percent). The duplicate samples analyzed for TPHd had an RPD of 35.8 percent (see Table C-1). The duplicate samples analyzed for VOCs using EPA Method 8240 had ND results for all analyzed compounds; consequently, an RPD was not calculated for VOC results.

None of the field or trip blanks were found to contain any of the target compounds above laboratory detection limits.

TABLE C-1
QUALITY CONTROL DATA FOR CHEMICAL ANALYSES
DATA PRECISION AS RELATIVE PERCENT DIFFERENCE (RPD) OF DUPLICATE SAMPLE ANALYSES
AND COMPOUNDS DETECTED IN FIELD BLANKS
[All concentrations expressed in parts per million (ppm)]

Well No.	Date	Lab	Lab I.D. No.	Acetone	MEK	Toluene	Total Xylenes	1,2-DCA	Ethyl-benzene	Phenol	TPHd	Arsenic	Zinc	Lead	Cadmium
LF-10	18-Dec-91	ANA	9112189-05	ND	ND	ND	ND	ND	ND	ND	0.990	0.704	ND	ND	ND
	18-Dec-91	ANA	9112189-04	ND	ND	ND	ND	ND	ND	ND	0.570	0.549	ND	ND	ND
	RPD(%)			NA	NA	NA	NA	NA	NA	NA	53.8	24.7	NA	NA	NA
BAILER BLANKS															
LF-9-BR	18-Dec-91	ANA	9112189-03	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
TRIP BLANKS															
T-B	17-Dec-91	ANA	9112188-01	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
"Field Blank"	18-Dec-91	ANA	9112189-01	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND

Explanation of Symbols and Abbreviations Used in Table C-1:
ANA = Anametrix
NA = Not Analyzed
ND = Not Detected
RPD = Relative Percent Difference, defined as the difference between two values divided by their arithmetic mean

Analytical Laboratory: Anametrix of San Jose

APPENDIX D

LABORATORY CERTIFICATE FOR FINGERPRINT CHARACTERIZATION

APPENDIX D

LABORATORY CERTIFICATE FOR FINGERPRINT CHARACTERIZATION

This section presents the results of sampling and laboratory analyses for fingerprint characterization of the free-floating product on the ground-water surface in well LF-2. The sample was collected and analyzed to identify the free-floating product found in well LF-2.

The laboratory report of the fingerprint characterization analysis of the sample collected from well LF-2 is attached.

Laboratory analysis results indicated the product was similar to mineral spirits or ligroins. The product was compared to a sample of Texanol, an ester alcohol compound, which was spilled in the vicinity of well LF-2 in March 1990. The results indicate the product that is collecting in well LF-2 is not from the Texanol spill, but is from some other source(s).

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

December 24, 1991

John De Reamer, Project Leader
Levine-Fricke, Inc.
1900 Powell, 12th Floor
Emeryville, CA 94608

Dear Mr. Reamer:

Enclosed are the results of the analyses of the sample submitted on December 19, 1991 from Project 1563.06 Sherwin-Williams.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this material, or if you just want to discuss any aspect of your projects, please do not hesitate to contact me.

Sincerely,

Lisa Bentley

Lisa A. Bentley, Chemist

LAB/dp

Enclosures

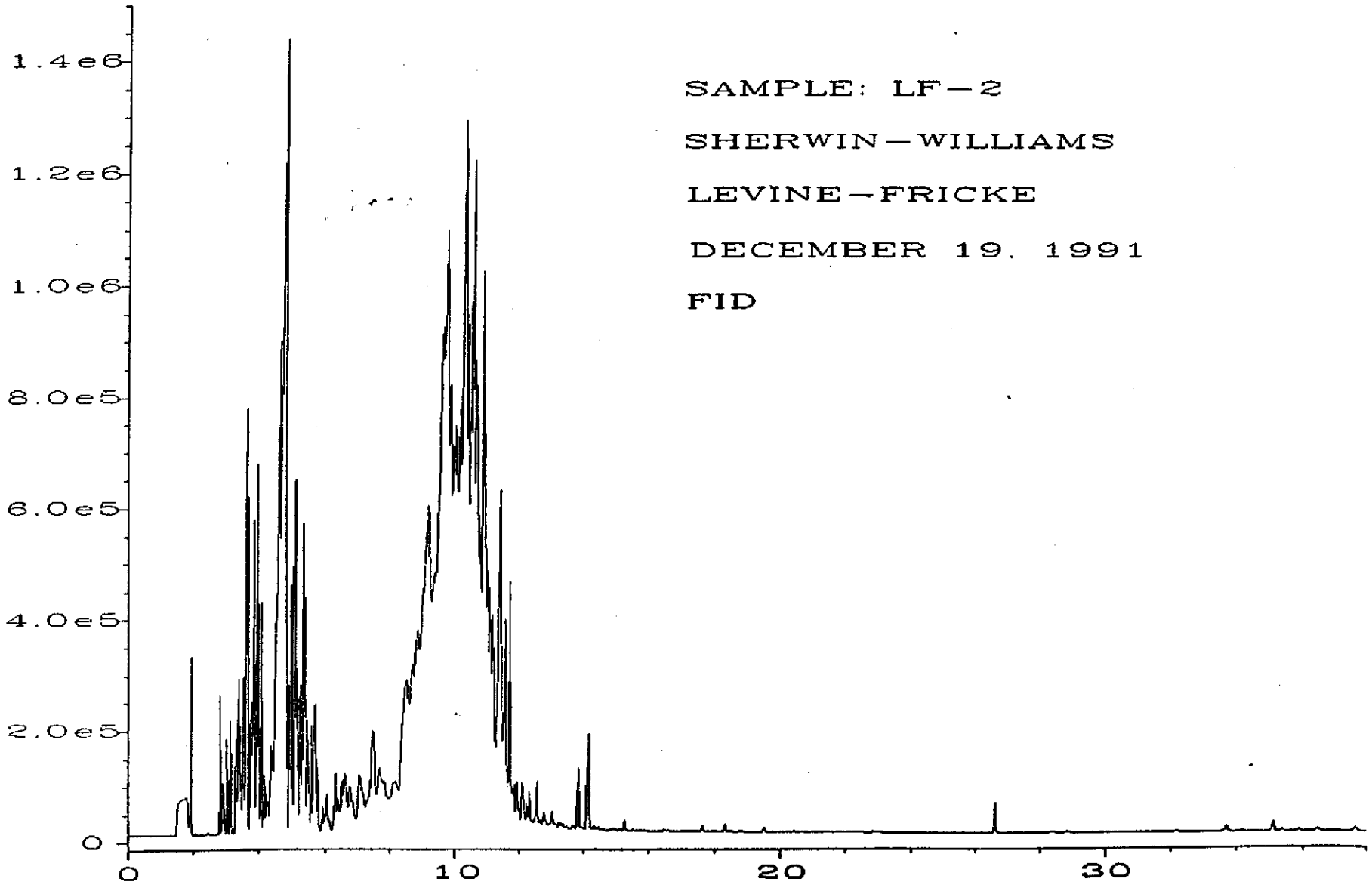
FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

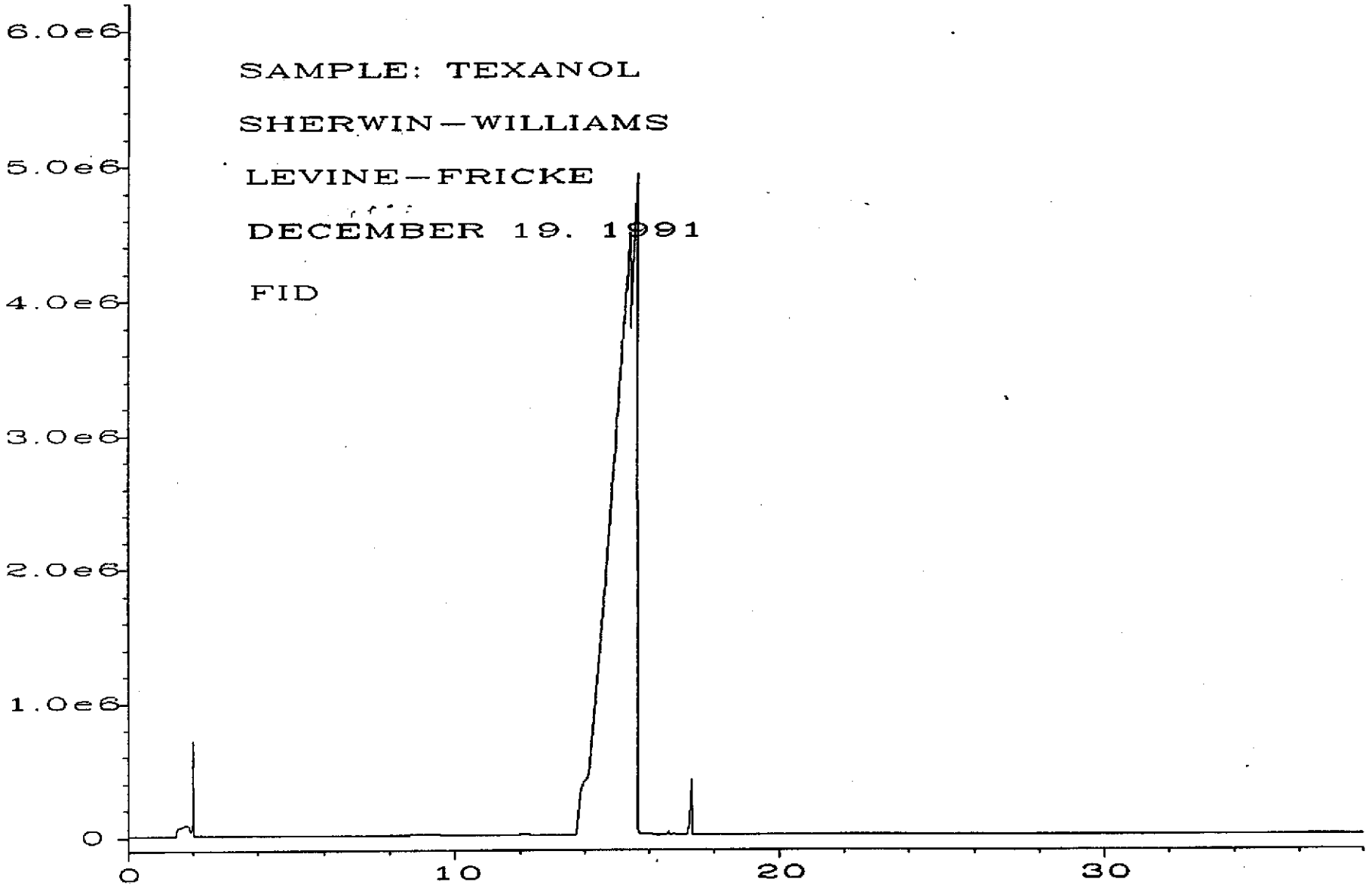
Date of Report: December 24, 1991
Date Submitted: December 19, 1991
Project: 1563.06 Sherwin-Williams

RESULTS OF ANALYSES OF THE PRODUCT SAMPLE FOR FINGERPRINT CHARACTERIZATION BY CAPILLARY GAS CHROMATOGRAPHY USING FLAME IONIZATION DETECTION (FID) AND ELECTRON CAPTURE DETECTION (ECD)

Sample #	GC Characterization
LF-2	The gas chromatographic trace showed the presence of low boiling compounds, such as those found in mineral spirits or ligroins. This characterization is based on the presence of two relatively smooth envelopes of peaks, the first present from ca *n*-C_5 to *n*-C_9 with a maximum near *n*-C_7, and the second envelope from ca *n*-C_{10} to *n*-C_{14} with a maximum near *n*-C_{11}. The material did not appear to be the same product as the Texanol sample, which appeared to be composed of a single compound or possibly two compounds. This product looked to be formed from a mixture of two refined distillates. TLC indicated that the components were largely aliphatic.



Sig. 1 in C:\HPCHEM\1\DATA\12-19-91\019F0401.D



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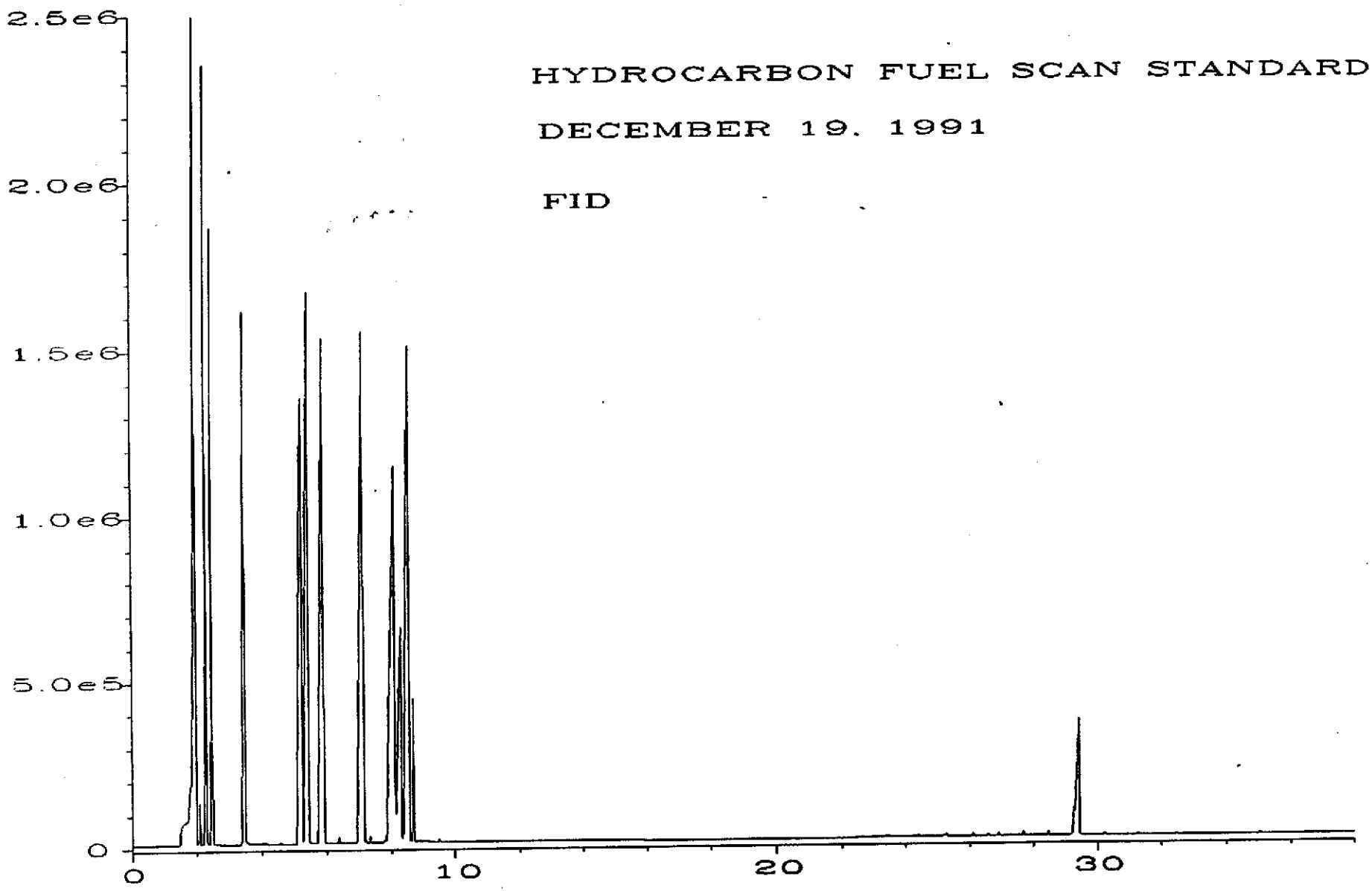

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(510) 650 7500

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

12 - LAF A

Project No.: 1563.06	Field Logbook No.:	Date: 12/18/91	Serial No.: 7318
Project Name: Sherwin-Williams	Project Location: Emeryville CA.		
Sampler (Signature): John DeReamer			Samplers: JHDR

SAMPLES / ANALYSES

SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CON-TAINERS	SAMPLE TYPE	EPA 601	EPA 624				HOLD	RUSH	REMARKS
LF-2-Product (yellowish)	12/18/91		26036-37	2	Liquid								Submitted for Product Identification
~~LF-2?~~													
Texanol (clear)	12/18/91		26038-39	2	Liquid								Texanol - example of spilled material that may have seeped into well

RELINQUISHED BY: (Signature) John DeReamer	DATE 12/18/91	TIME 6:00 pm	RECEIVED BY: (Signature) M.A. DANFORD	DATE	TIME
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT:	DATE	TIME	LAB COMMENTS:		

Sample Collector: LEVINE-FRICKE 1900 Powell Street, 12th Floor Emeryville, Ca 94608 (415) 652-4500	Analytical Laboratory: Friedman and Bruya Seattle Washington

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Attn: Lisa Bently